

REVIEW OF AEAP MILESTONE INCENTIVE AWARDS, PROGRAM YEARS 1999-2002

REPORT

Submitted to:

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1 EXECUTIVE SUMMARY

The Annual Earnings Assessment Proceeding (AEAP) provides the basis for California Public Utilities Commission (CPUC) review of the level of success achieved by the four California Investor Owned Utilities in implementing a variety of Energy Efficiency programs. The current AEAP proceeding is a consolidation of the IOUs' AEAP applications filed in 2000, 2001, 2002 and 2003 for shareholder incentive earnings for Program Years (PY) 1999-2001 and for PY 2002 accomplishments. The AEAP review process determines how the CPUC distributes IOU shareholder earnings to each of the four utilities (PG&E, SCE, SDG&E, and SCG) based on their activities and accomplishments. The review process includes an assessment of the achievement of energy efficiency program related milestone goals by the IOUs.

1.1 Project Steps

To accomplish an independent third-party assessment of energy efficiency program related milestone goals, the CPUC solicited proposals and awarded the contract to Skumatz Economic Research Associates, Inc. (SERA, based in Superior, CO). The core team involved in this assignment was SERA and Summit Blue, with assistance from Blue Consulting and GEP.¹

There were three sets of PY assessments to be conducted as part of this project:

- PY 1999-2000, which was based on cost reimbursement for program delivery, but also provided an additional incentive based on superior or acceptable achievement of program-related milestones.
- PY 2001, which provided incentive awards partly based on achievement of energy savings targets, and partly based on market transformation and program implementation targets as in the previous year;
- PY 2002, which included no shareholder earnings, but rather reimbursement of a portion of program costs was at risk if reasonable efforts toward meeting program accomplishment goals (energy savings and non-energy performance goals) were not made.

The steps involved in accomplishing this work included:

- Review the utilities' AEAP filings and request documents establishing milestone goals, award values, and verification requirements;
- Create a milestone claims inventory and check both that the claims are consistent with Commission-approved milestones and that individual claims summed to totals claimed by the utilities;
- Select a sample of milestones for review and analysis;

¹ The project team in total consisted of Skumatz Economic Research Associates and its subcontractors Summit Blue Consulting, Quantec, Global Energy Partners, Northwest Research Group, Emcor Energy and Technology. The team was also assisted by Blue Consulting. SERA and Quantec, assisted by NWRG and EE&T were responsible for the other major portion of the project, an assessment of retention and TDF studies.

- Submit claims verification requests to the individual utilities related to the selected milestone claims; and
- Assess milestone award claims to identify which portions of award claims could be supported based on a review of the documents submitted, and which portions of dollar award claims may possibly be at risk.

1.2 Issues Related to Priority Claims Investigated

Across the three years for which milestone incentives were available, utilities pursued a variety of different milestone types, each with a unique set of measurement metrics and award mechanisms. In order to facilitate the milestone verification process, the SERA Team categorized milestones into three major groups:

- **Expenditure-based milestones**, based on the utilities spending most or all of the approved program budgets (e.g., Aggressive Implementation and Performance Adder milestones)
- **Energy Savings milestones**, related to the achievement of specific savings targets for kW, kWh, and therms (for PY01 only, including the Bonus award)
- **Miscellaneous milestones**, which include all those classified as Administrative, Base, Activity, or Market Effects milestones

Across all the utilities and all the years, the SERA Team checked 30% of the utilities' milestone award claims worth 50% of the total claimed dollars. The first few months of the project were consumed with obtaining and reviewing governing documents, and constructing a comprehensive inventory of the milestones, accomplishments, and award claims. The next step was to select a sample of the milestones for verification. The SERA review team initially planned a two-part sampling strategy which would provide a strong basis for extrapolating findings to the claims at large:

- A census or large over-sampling of the largest / priority claims, including the key awards for each PY for each utility and each program area;
- Followed-up by a random sample of the remaining milestones.

Due to timing constraints, we were unable to carry out this preferred sampling plan. While some of our initial round of data requests received prompt attention and response from the IOUs, others took many rounds and up to five months to obtain sufficient responses. This issue made it impossible to conduct the second round of (random) sampling within the desired project timeframe. This raised an analytical issue related to extrapolation of the results to claims not verified. If the SERA team makes the assumption that claims not investigated are 100% met, then the utilities benefit inappropriately from not supplying adequate or timely documentation. If the assumption is made that the claims not investigated will be represented by the claims that we were able to check, then there is some repercussion for documentation not provided. There are two issues associated with this approach that suggest the best approach to addressing claims not explicitly evaluated:

- From a statistical point of view, the sample of claims investigated does not represent the population of claims; the largest claims were significantly oversampled.

- It may be argued that the claims that were investigated will underestimate the dollars at risk from the full population of claims. Given the incentive structure, the largest claims would almost certainly be those best documented by the utilities.

Other assumptions – assuming lower achievement rates for uninvestigated claims – would be arbitrary and difficult to justify without an assessment of a random sample of the claims. Therefore, in the remainder of the document we present the figures for potential dollars at risk based on an extrapolation of the results from the largest claims. The figures without extrapolation are presented in footnotes.

1.3 Share of Claims Investigated

Table E.1 shows the number of claims for each utility for PY 1999 through PY 2001. The total value of all claims is also shown in Table E.1. In total, 125 claims were selected for detailed investigation. This represents 30% of the total claims and \$32.5 million or 50% of the total dollars claimed (Table E.2). The percentage of claims investigated varied across utilities from 22% (PG&E) to 49% (SCG), and the share of the dollars investigated varied from 44% (PG&E) to 61% (SCG). The value of verified claims ranged from 36% for PY 2000 up to 64% for PY 2001.

Table E.1 Total Milestone Award Claims by Utility and Year – Number (#) and Dollar Value, (PY 1999-2001, \$, in millions)

	PG&E		SCE		SCG		SDG&E		Total	
	#	\$	#	\$	#	\$	#	\$	#	\$
1999	71	\$11.3	53	\$8.9	26	\$2.7	28	\$3.5	178	\$26.4
2000	55	\$9.8	57	\$5.9	26	\$1.7	41	\$2.6	179	\$20.0
2001	17	\$9.6	14	\$5.6	13	\$1.3	15	\$2.7	59	\$19.2
Total	143	\$30.6	124	\$20.4	65	\$5.8	84	\$8.9	416	\$65.6
Percent	34%	47%	30%	31%	16%	9%	20%	14%	100%	100%

Table E.2 Percent of Claims (#) and Percent of Claim Values (\$) Covered by Detailed Assessments (PY 1999-2001)

	PG&E		SCE		SCG		SDG&E		Total	
	#	\$	#	\$	#	\$	#	\$	#	\$
1999	14%	41%	23%	57%	50%	60%	32%	50%	25%	50%
2000	16%	25%	12%	46%	27%	64%	20%	40%	17%	36%
2001	76%	67%	86%	66%	92%	58%	87%	50%	85%	64%
Total	22%	44%	25%	52%	49%	61%	36%	47%	30%	50%

1.4 Results for Claim Dollars Potentially at Risk

Table E.3 summarizes the results from the detailed assessment of claim values potentially at risk for PY 1999 through PY 2001. Claims potentially “at risk” are those for which supporting documentation provided by the utilities may not be sufficient to warrant payment of the related milestone incentive awards. The analysis of PG&E and SCE documentation showed that only about 4% (PG&E) and 6% (SCE) of the claimed dollars are potentially at risk. For SCG and SDG&E, a total of 11% of the claim value for each of the utilities may be potentially at risk. A detailed description of the review for each utility is included in the report and supporting appendices.

The share of claims at risk varies by utility, as well as by type of earnings claim. The Expenditure-based claims were most fully documented, with less than 1% of the value of these claims potentially at risk. Energy Savings claims were also frequently supported; 95% to 100% of the value of these claims were supported by the assessment of documents provided. The Miscellaneous awards showed the greatest share of dollars (in absolute dollar value) at risk. The analysis of documentation in support of these claims finds between 4% and 18% of the claimed dollars potentially at risk.

Overall, using the methodology described, we find that 94% of the \$65.5 million in earnings claims can be supported from our assessment of the documentation provided, leaving 6% or \$4.1 million potentially at risk.

Table E.3 Milestone Values Verified and Potentially Not At Risk by Utility (PY 1999-2001)

	% of Claimed Dollars Assessed	Award Value Verified (thousands)	Award Claim (thousands)	Share of Claim for Award Not at Risk
PG&E Total	44%	\$29,282	\$30,618	96%
Expenditure-based	100%	\$3,221	\$3,248	99%
Energy savings	68%	\$7,748	\$8,240	94%
Miscellaneous	24%	\$18,313	\$19,130	96%
SCE – Total	52%	\$19,233	\$20,386	94%
Expenditure-based	100%	\$3,818	\$3,818	100%
Energy savings	45%	\$4,752	\$4,752	100%
Miscellaneous	40%	\$10,663	\$11,816	90%
SCG – Total	61%	\$5,035	\$5,653	89%
Expenditure-based	100%	\$1,077	\$1,077	100%
Energy savings	55%	\$1,090	\$1,090	100%
Miscellaneous	55%	\$2,869	\$3,486	82%
SDG&E – Total	47%	\$7,919	\$8,874	89%
Expenditure-based	100%	\$1,124	\$1,124	100%
Energy savings	40%	\$2,180	\$2,300	95%
Miscellaneous	37%	\$4,615	\$5,449	85%
Overall Total	50%	\$61,469	\$65,531	94%

For PY 2002, accomplishments and efforts were reviewed for all 73 programs administered by the four utilities. For these programs, whose total expenditures were \$164.3 million, the SERA Team noted achievements toward goals in energy savings, hard-to-reach customer outreach, and other specific areas. Based on these achievements and the size of the program budgets, a total of 33 programs (accounting for \$114.7 million, or 70% of all PY02 expenditures) were selected for more detailed review. For these 33 programs, the level of expenditure reimbursement subject to approval by the Commission is approximately \$25.8 million.² Although the SERA Team reviewed documentation that could support claims that “reasonable efforts” were made toward achieving goals by all four utilities, the SERA Team has identified 10 specific programs that the Commission may wish to review more closely prior to granting approval of full reimbursement of program costs. These 10 programs represent up to \$4.25 million that are subject to refund if the Commission determines that reasonable efforts were not made; however, no specific program costs have been identified as potentially at risk by the SERA Team.

² For energy savings programs, the final 15% of program costs is subject to refund if the utilities unreasonably fail to meet program goals. For information-only programs, the entire final quarterly payment is subject to refund. According to the commission, deductions “will be proportional to the providers’ unreasonable failure to meet targets” (See Decision 02-03-056, March 21, 2002, pp. 55-56 and Ordering Paragraphs 18 and 19, pp. 67-68).

Table E.4 PY 2002 Programs Potentially Needing Further Consideration, by Utility (\$ in thousands)

	Total Number of Programs	Total Program Costs	Total Program Costs Subject to Review	Potentially Needing Further Review by CPUC	
				Number of Programs	Value of Programs
PG&E	17	\$62,400	\$10,640	3	\$2,328.45
SCE	23	\$63,950	\$11,675	2	\$483.0
SCG	13	\$16,692	\$2,965	2	\$690.0
SDG&E	20	\$21,311	\$3,492	3	\$753.5
Total	73	\$164,350	\$28,772	10	\$4,254.95

2 BACKGROUND

This Section provides background on the AEAP incentive award process, the distinctions between program years, and the solicitation of the project team to conduct the work.

2.1 AEAP Milestone Incentive Award Process

The Annual Earnings Assessment Proceeding (AEAP) provides the basis for the review of Energy Efficiency Program Accomplishments for the Investor Owned Utilities (IOUs) in the state of California. These utilities include Pacific Gas & Electric Co. (PG&E), Southern California Edison Co. (SCE), Southern California Gas Co. (SCG), and San Diego Gas & Electric Co. (SDG&E). Through the AEAP the California Public Utilities Commission (CPUC) determines how successful the IOUs were in implementing a variety of energy efficiency programs, and the Commission distributes IOU shareholder earnings to them accordingly. The CPUC's review process in making its determination includes an assessment of the energy efficiency program related milestone goals by IOUs.

The current AEAP proceeding is a consolidation of the IOUs' AEAP applications filed in 2000, 2001, 2002 and 2003 for shareholder incentive earnings for Program Years (PY) 1999-2001 and for PY 2002 accomplishments.

2.1.1 Program Years 1999-2000

In 1999, the IOUs, in conjunction with the California Board for Energy Efficiency (CBEE), implemented a new strategy to reduce energy consumption through the use of incentive awards for the achievement of specific program goals, or milestones. In March of 1999, Resolution E-3578 established the guidelines for the implementation of the new energy efficiency program structure.

The most significant change to the energy efficiency programs was that in addition to simple reimbursement to the IOUs for the cost of the energy efficiency programs, additional incentive payments were to be provided if a utility achieved the milestone goals set out in the program application.³ The reasoning behind this shift was that the utilities would now have a vested fiduciary interest in lowering the amount of energy consumed by the public.

For the 1999-2000 program years, the IOUs received earnings based on reaching or surpassing various milestone goals that were, for the most part, not based on energy savings achieved but rather on specific market transformation and program implementation targets (see CPUC Resolution E-3578, March 1999 and Decision 00-07-017, July 2000). Examples of these milestones include increasing the number of contractors trained in energy-efficient installation techniques, documenting the number of energy efficiency information packets distributed, or increasing the market share of ENERGY STAR® appliances. If the utility was to receive the incentive payment (in addition to the reimbursement for the program cost), milestones had to

³ For PY 1999 the total incentive payment that the utilities could claim was equal to 11% of the total energy efficiency program budgets. For PY 2000 and PY 2001, the maximum incentive was reduced to 7% of the budget amounts. In PY 2002 the incentive was eliminated altogether, although the Commission could withhold payment of a portion of up to 25% of program expenditures if the utilities failed to demonstrate reasonable efforts toward meeting program goals.

have been achieved within a specified timeframe, usually by the end of the program year, but often earlier.

The milestones were laid out with two possible levels of achievement: “superior” and “acceptable” and (also referred to as Target 1 and Target 2). If a milestone was achieved at the superior level of performance, then the maximum award level was claimed. If the milestone was achieved at the acceptable level of performance, then the minimum award was claimed. For example, if a milestone stated that 10 contractor workshops were to be completed by June 30 (the “superior” achievement), a separate deadline of July 30 (the “acceptable” achievement) might have also been established to allow for a lesser award.

2.1.2 Program Year 2001

By PY 2001, the view of program success had changed, resulting in a corresponding shift in milestone goals. As a result of the lessons learned from the structure of the PY 1999-2000 milestones and from the energy shortage California was experiencing at the time, in PY 2001 the CPUC tied performance incentive awards to specified energy savings targets in addition to the completion of milestones, as had exclusively been done in PY 1999-2000 (see Decision 01-01-060, January 2001).

The PY 2001 IOU milestones are based in part on energy savings targets and in part on the market transformation and program implementation targets as in previous years. Rather than subjecting the energy savings to measurement after the completion of the program, *ex ante* energy savings estimates were assumed for energy efficiency measures installed under the programs, and only the actual installation of the measures was subject to review. In addition, utility administrators were given the flexibility to shift funds as needed to meet demand for the programs while maximizing energy savings.

Energy savings milestones were divided into three energy savings categories (peak kW, annual kWh, annual therms). The awards for these milestones were quite large compared to those for most other milestones either in PY 2001 or in previous Program Years. The energy savings targets each encompassed numerous programs with diverse end-uses and technologies.

2.1.3 Program Year 2002

For the 2002 program year the IOUs were not eligible for shareholder incentives for their program accomplishments, but instead a portion of their program costs were at risk for refund if the IOUs unreasonably failed to meet program goals (see Decision 02-03-056, March 21, 2002, pp. 55-56 and Ordering Paragraphs 18 and 19, pp. 67-68).

Program goals in 2002 were very similar to 2001 programs in that they were a combination of both energy savings targets based on *ex ante* assumptions as well as non-energy savings performance targets. By focusing the goals on overall energy reduction rather than specifying exact program achievements (e.g. installing 10,000 compact fluorescent bulbs), greater flexibility was given to the IOUs, while the core energy-savings goal of the energy efficiency programs was maintained.

PY 2002 divided program goals into two categories: 1) pre-determined (*ex ante*) energy savings and demand reduction targets and 2) a set of non-energy savings targets, including specific goals for the hard-to-reach (HTR) customer segment. Rather than having the specific milestone

thresholds for achievement as in prior program years, the IOUs were required only to make reasonable efforts in achieving program goals.

2.2 CPUC Request for Proposals

In order to ensure the integrity of the energy efficiency programs undertaken by the IOUs and to hold the IOUs accountable to the ratepayers of California, the CPUC sought an independent third-party assessment of the incentive claims that the IOUs have made for the energy efficiency programs for PY 1999 through PY 2002. Pursuant to this, the CPUC issued a Request for Proposals (RFP) in May, 2003 and subsequently contracted with a third party SERA Team, headed by Skumatz Economic Research Associates, to verify these claims.

According to the RFP, the SERA Team was to provide a comprehensive report detailing the independent verification of the milestone achievements used as bases for IOU earnings claims (PY 1999-2001) and final payment (PY 2002) in the pending Annual Earnings Assessment Proceeding. The final report was to present conclusions on the veracity of the IOU's milestone goal achievements, including detailed descriptions of why particular goals were or were not achieved and what sampling or verification technique was used to reach the conclusions.

Skumatz Economic Research Associates, Inc. (SERA) was the project lead for this assignment, with significant support from Summit Blue Consulting, LLC. blueCONSULTING, Inc. was added to the team at a later date to assist with the accounting involved for verifying expenditure based claims.⁴

⁴ The entire project consisted of tasks including an independent review of retention and persistence studies. The team involved in that task consisted of SERA, Inc. (project lead); Summit Blue Consulting, LLC, with support from Global Energy Partners; Quantec, LLC; EMCOR Energy and Technology; and Northwest Research Group.

3 UTILITY AEAP FILINGS

The first stage of the project was to obtain and review the documents that governed the milestones that the SERA Team was to review. Section 3 describes the AEAP filings, structure, and content, as well as the distribution of milestones by type and across utilities for Program Years 1999 through 2001. As discussed in Section 5.4, utilities were not eligible for incentives for PY2002 and their filings do not contain incentive claims.

3.1 Summary of Milestones (1999-2001)

For each program year from 1999 through 2001, the utilities submitted AEAP filings containing claims for incentive payments resulting from their achievement of the approved milestones. Typically, each utility supported its total claim amount for the program year with an itemized list of the individual milestones, including the maximum award value and the utility's claim for each milestone. Over the three years for which milestone incentives were offered, the four utilities made claims on more than 400 unique milestones representing more than \$65 million in shareholder incentives. PG&E represents nearly half (47%) of all dollars claimed, followed by SCE (31%), SDG&E (14%), and SCG (9%) (Table 3.1 and Table 3.2).

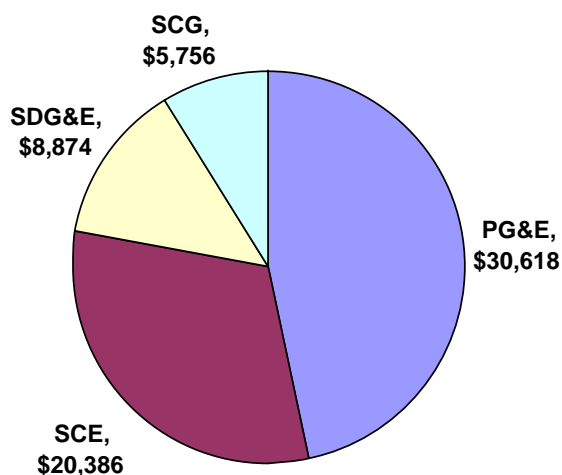
Table 3.1 Total Milestone Award Claims by Utility and Year – Number (PY 1999-2001)

	PG&E	SCE	SCG	SDG&E	Total
1999	71	53	26	28	178
2000	55	57	26	41	179
2001	17	14	13	15	59
Total	143	124	65	84	416

Table 3.2 Total Milestone Award Claims by Utility and Year - Dollar Value (PY 1999-2001, \$ in thousands)

	PG&E	SCE	SCG	SDG&E	Total
1999	\$11,262	\$8,923	\$2,699	\$3,545	\$26,429
2000	\$9,796	\$5,872	\$1,726	\$2,622	\$20,017
2001	\$9,560	\$5,591	\$1,330	\$2,706	\$19,188
Total	\$30,618	\$20,386	\$5,756	\$8,874	\$65,633
Percent of Total	46.7%	31.1%	8.8%	13.5%	100%

Figure 3.1 Value of Milestone Award Claims PY 1999 through PY 2001 (\$ in thousands)



3.2 Milestone Categories (1999-2001)

Section 3.2 describes the various types of milestones in detail. Across the three years for which milestone incentives were available, utilities pursued a variety of different milestone types, each with a unique set of measurement metrics and award mechanisms. In order to facilitate the milestone verification process, the SERA Team has categorized milestones into three major groups:

- Expenditure-based milestones
- Energy Savings milestones
- Miscellaneous milestones

3.2.1 Expenditure-based Milestones

Expenditure-based milestone awards are dependent upon the utilities spending most or all of the approved program budgets (including “commitments” that reserve funds for later payment to program applicants). In PY 1999 and PY 2000, the Expenditure-based milestones were called “Aggressive Implementation” milestones; in PY 2001, the award mechanism was changed slightly and the name was changed to “Performance Adder.” Expenditure-based milestones varied slightly between utilities and program years, but typically there were three milestones for each utility in each program year, corresponding to each of the three program areas: residential, non-residential, and new construction. A utility could earn the maximum award by spending (or committing to spend) at least 90% of the approved budget for that program area. A minimum spending threshold of 60%-70% of a program area budget qualified for a specified lesser award, and intermediate expenditure levels were accorded awards between the two extremes.⁵

⁵ Between the utilities and across program years, there were variations of the award mechanisms described here. Details are provided as necessary in Section 6 – Findings and Recommendations.

3.2.2 Energy Savings Milestones

In PY99 and PY00, a few milestones contained specific energy savings targets. However, energy savings were not a major milestone goal, and Energy Savings milestones were not defined until PY01. For program year 2001, the utilities had as many as nine Energy Savings milestones: one for each relevant energy savings category (kW, kWh, and therms) within the Residential, Non-residential, and New Construction program areas. For each utility, the Commission assigned target achievement levels for each of the energy savings categories relevant to that utility.⁶ The maximum award could be earned for meeting these energy savings targets, and a minimum award equal to 50% of the maximum could be earned for achieving 80% of the primary target. Awards for intermediate achievements were determined through linear interpolation as approved by the CPUC.

Utilities were also eligible to earn a “bonus” energy savings award if they met *all* of their program area and kWh, MW, and therm savings targets.

3.2.3 Miscellaneous Milestones

Miscellaneous milestones include all those classified as Administrative, Base, Activity, or Market Effects milestones. The Administrative, Activity and Base milestone categories are all dependent on the accomplishment of a certain goal within a specified time frame. Examples of these milestones are: “Complete a statewide energy booklet for small commercial and industrial customers by July 30 (for superior award) or September 30 (satisfactory award)” and “Conduct 6 workshops for duct and window training by May 31 (for superior award) or June 30 (satisfactory award).”

Market Effects milestones concentrate on the achievement of a measurable market impact and are tied to specific performance requirements of key programs. Importantly, while Market Effects milestones are tied to a specific program year, the impact of accomplishments from these programs persists over time and may result in significant energy savings. An example of a Market Effect milestone is “Increase the ratio of high efficiency water heaters sold by 5% over current level. Award scales from 2% (satisfactory) to 5% (superior).”

3.3 Distribution of Milestones

The number, type, and mix of milestones changed dramatically between PY00 and PY01. There were nearly 180 milestones each year in PY99 and PY00. The vast majority were Miscellaneous milestones, with Expenditure-based milestones comprising the remainder. In PY01, there were only 61 milestones, 20 of which were in the Miscellaneous category. The majority of the milestones, and 85% of the available award dollars, were for Energy Savings (including the Bonus award). Across the three years, Miscellaneous milestones accounted for 61% of all incentive dollars, followed by Energy Savings (25%), and Expenditure-based (14%). The distribution of the milestones by program year and type is shown in Table 3.3. Table 3.4 shows the value of these milestones.

⁶ PG&E, SDG&E, and SCG had all nine milestones; SCE, an electric-only utility, had only the six milestones for kW and kWh savings.

Table 3.3 Milestones by Type and Year, Across Utilities – Number (PY 1999-2001)

	Expenditure-Based*	Energy Savings**	Miscellaneous***	Total
1999	12	0	166	178
2000	15	0	164	179
2001	4	35	20	59
Total	31	35	350	416
Table Notes: * Expenditure-based milestones include Aggressive Implementation milestones (in PY 1999 and PY 2000) and Performance Adder milestones (in PY 2001) ** Energy Savings milestones include kW, kWh, and therm targets; and also a "bonus" award for achieving all energy savings targets for each program area. *** Miscellaneous milestones include Market Effects, Administrative, Activity, and Base milestones.				

Table 3.4 Milestones by Type and Year, Across Utilities – Value (PY 1999-2001, \$ in thousands)

	Expenditure-Based*	Energy Savings**	Miscellaneous***	Total
1999	\$4,731	\$0	\$21,698	\$26,429
2000	\$3,629	\$0	\$16,388	\$20,017
2001	\$1,010	\$16,382	\$1,796	\$19,188
Total	\$9,370	\$16,382	\$39,882	\$65,633
Percent of Total	14.3%	25.0%	60.8%	100%
Table Notes: * Expenditure-based milestones include Aggressive Implementation milestones (in PY 1999 and PY 2000) and Performance Adder milestones (in PY 2001) ** Energy Savings milestones include kW, kWh, and therm targets; and also a "bonus" award for achieving all energy savings targets for each program area. *** Miscellaneous milestones include Market Effects, Activity, Administrative, and Base milestones.				

4 APPROACH TO MILESTONE CLAIMS VERIFICATION

The milestone claims verification effort concentrated on Program Years 1999, 2000, and 2001 since these years allowed for explicit financial incentives for the utilities. Energy efficiency programs for PY 2002 were also evaluated to ensure that the utilities' efforts warrant full recovery of their program costs. The verification process consisted of two phases.

During the first phase of this effort, the SERA Team collected the most critical documents, such as utility energy efficiency program applications and relevant CPUC Decisions, necessary for verifying the approved milestones, award amounts, and mechanisms for determining full or partial achievement of the milestones. Essentially, this was a "consistency check" that served to ensure that the utilities' claims are consistent with the rules approved by the Commission.

In the second phase, the SERA Team selected a sample of milestones for detailed review. The Team then scrutinized utility-supplied documents that support the utilities' award claims and requested additional information as necessary to verify the claims. For each claim, an assessment was made to approve the claim or identify and compute the award incentives potentially at risk based on a review of documents and side analyses performed by the SERA Team.

Specific elements of the two-phased milestone verification approach are as follows:

Phase I

1. Review AEAP filings and request additional relevant documents
2. Create milestone claims inventories

Phase II

3. Select milestones for review
4. Submit claims verification requests to utilities
5. Assess milestone award claims

4.1 Review AEAP Filings / Request Additional Documents

The SERA Team began the milestone claims verification effort by reviewing the AEAP filings submitted by the utilities for Program Years 1999 through 2002 (see Section 3 for a description of these filings). Since the filings were not uniform in format, Team members divided the utilities between them to ensure that at least one Team member became familiar with how each utility presented its claims and where in the multiple volumes of filings the claims tables and explanations could be found.

Through this initial review the Team identified the relevant CPUC Decisions that govern the milestone incentive award process for each Program Year, as well as additional utility filings relevant to the process, including advice letters and energy efficiency program applications. These documents were requested of the Commission and/or the utilities so that the SERA

Team could definitively document the milestone goals and awards that were approved by the Commission. Throughout the claims verification process, the Team requested additional documents as they were identified.

4.2 Create Milestone Claims Inventories

In order to record all utility award claims in a uniform manner that would facilitate the assessment, the SERA Team developed standardized Milestone Claims Inventories for each utility. For Program Years 1999 through 2001, inventory templates were created in Microsoft ExcelTM spreadsheets and information on milestones and claims was input from the AEAP filings.⁷ The information in the inventories was organized according to the following categories:

- AEAP filing and program identification
- milestone descriptions and claim information
- consistency checks (utility claims versus CPUC-approved awards)
- utility information requests and responses for selected claims
- claims assessments

This inventory system enabled the Team to track progress in assessing the utility claims, including verifying that the claims reflected approved award mechanisms, documenting information requests and responses, and identifying potential claim dollars potentially at risk. Table 4.1 provides a more detailed description of the inventories and the specific types information that are included.

Table 4.1 Contents of Milestone Claims Inventories

Category	Description	Data Elements
AEAP filing and program identification	Identifies the utility and year of the milestones as well as attributes of the program to which the milestones apply	<ul style="list-style-type: none"> • Utility • PY • AEAP Year • Program Area • Program Name • Program Element
Milestone descriptions and claim information	Describes the milestones, the achievement goals and the award values, as well as the utilities' claims	<ul style="list-style-type: none"> • Milestone Code, Type, & Description • Achievement Goals • Award Goals • Achievement Claims • Award Claims
Consistency Check	Characterizes how well the utilities' claims correspond to the CPUC-approved rules	<ul style="list-style-type: none"> • Consistency Assessment • Consistency Rating
Utility information requests and responses	Catalogs the SERA Team's claims verification requests to the utilities and the utilities' responses	<ul style="list-style-type: none"> • Verification Request • Utility Response • Description of Verification Documents • Follow-up Request
Claims Assessment	Assessment of utility claims, including methodology for review and rationale for verification or adjustment	<ul style="list-style-type: none"> • Assessment Explanation • Approved or Suggested Award • Approved/Suggested Award versus Claimed Award • Assessment Notes

⁷ Since there were no explicit milestones and awards for PY 2002, separate and less detailed inventory templates were created for each utility for PY 2002.

As a check on the accuracy of the data entry into the inventory spreadsheets, the sum of the individually entered claims for each year was compared to total claim stated by the utilities for that year. The sources of any discrepancies were identified and corrections made to ensure that the inventories correctly reflected the claims contained in the AEAP filings.

4.3 Select Milestones for Review

For Program Years 1999 through 2001, the four utilities have more than 400 individual milestones between them, worth more than \$65 million. In order to make the assessment task manageable, the SERA Team prioritized milestones for detailed evaluation and conducted detailed assessments on 125 individual milestones worth more than \$32 million.

4.3.1 Expenditure-based Milestones

The SERA Team selected all Aggressive Implementation and Performance Adder milestones for detailed assessment since these milestone types accounted for a significant portion of all claims (typically 10-20% of annual claims dollars), and they usually concentrated in no more than three unique milestones for each utility for each year.⁸

4.3.2 Energy Savings Milestones

All Energy Savings milestones (which were in PY 2001 only) were evaluated as well, since these milestones accounted for 80% of the value of award claims in PY 2001. As described above in Section 3.2.2, the utilities had as many as nine Energy Savings milestones: one for each relevant energy savings category (kW, kWh, and therms) within the Residential, Non-residential, and New Construction program areas.

The awards for these nine milestones were quite large compared to the awards for most other milestones in either PY 2001 or previous years. Also, the Energy Savings targets each encompassed numerous programs with diverse end-uses and technologies. For these reasons, the SERA Team disaggregated the Energy Savings milestone awards into smaller categories, based on the Energy Savings achievements claimed by the utilities in their PY 2001 Energy Efficiency Annual Reports. For each Energy Savings category, the total claim amount within each of the three Program Areas was allocated proportionally to the program groupings presented in the annual reports according to the program groupings' pro-rated share of the total Energy Savings.

Based on the disaggregated award claims, the program groupings with the highest claim values within each of the three Program Areas were then selected for detailed assessment.⁹ Savings claims for some of the other program groupings (those with relatively large savings and miscellaneous smaller groupings) were also reviewed, but in less detail, as described in Section 5 below. The "Bonus" milestone award, based on achievement of the Energy Savings milestones in each program area, was also evaluated.

⁸ Typically, three Expenditure-based milestones were established for each utility in each program year, one each for the Residential, Non-residential, and New Construction program areas. In PY 2000, PG&E had six Performance Adder milestones, corresponding to specific programs or program elements.

⁹ Southern California Gas did not make any claims for residential energy savings. Therefore, an additional non-residential energy savings milestone was selected for review.

4.3.3 Miscellaneous Milestones

In order to make the assessment task manageable, a sample of the remaining claims (i.e., claims for Market Effect, Activity, Base, and Administrative milestones) was also selected for detailed review. For the first of the two rounds of claims-verification requests, these claims were prioritized based on their dollar value and with an eye toward ensuring that all program areas were represented in the initial assessment.

For PY 1999 and PY 2000, the top three highest dollar-value milestones for each utility were selected. Within each of the three program areas, the highest dollar-value milestones were also selected if they were not already chosen based on the initial criterion. Where two or more milestones fitting the above criteria had identical claim values, all of these milestones were selected for detailed review. As a result, some utilities had as few as three milestones selected for a given Program Year (i.e., one for each Program Area), while others had as many as 10 selected.¹⁰

For PY 2001, only 10 percent of the milestone award value was allocated to milestones other than the Expenditure-based milestones and the Energy Savings/Bonus milestones described above. Consequently, for this Program Year, only the highest dollar-value milestone within each Program Area was selected.

4.3.4 Summary of Milestones Selected for Review

As presented in Table 4.2 through Table 4.5, 125 milestones representing \$32.5 million (50% of the value of all claims) were selected for a detailed review.

Table 4.2 Number of Claims Selected for Detailed Assessment (PY 1999-2001)

	PG&E	SCE	SCG	SDG&E	Total
1999	10	12	13	9	44
2000	9	7	7	8	31
2001	13	12	12	13	50
Total	32	31	32	30	125

Table 4.3 Proportion of Claims Covered by Detailed Assessments (PY 1999-2001)

	PG&E	SCE	SCG	SDG&E	Total
1999	14%	23%	50%	32%	25%
2000	16%	12%	27%	20%	17%
2001	76%	86%	92%	87%	85%
Total	22%	25%	49%	36%	30%

¹⁰ The case where 10 milestones were selected was in response to a unique milestone scheme for SCG in PY 1999 in which one of SCG's awards was triggered upon fulfillment of seven out of nine milestones. In this case, all nine milestones were evaluated.

Table 4.4 Value of Claims Selected for Detailed Assessment (PY 1999-2001, \$ in thousands)

	PG&E	SCE	SCG	SDG&E	Total
1999	\$4,572	\$5,120	\$1,622	\$1,780	\$13,094
2000	\$2,411	\$2,681	\$1,112	\$1,045	\$7,249
2001	\$6,371	\$3,703	\$777	\$1,342	\$12,192
Total	\$13,354	\$11,504	\$3,511	\$4,167	\$32,536

Table 4.5 Proportion of Total Claim Value Covered by Detailed Assessments (PY 1999-2001)

	PG&E	SCE	SCG	SDG&E	Total
1999	41%	57%	60%	50%	50%
2000	25%	46%	64%	40%	36%
2001	67%	66%	58%	50%	64%
Total	44%	52%	61%	47%	50%

4.3.5 Program Year 2002

Because there were no milestones in PY 2002, utilities' efforts and achievements were reviewed. Programs were selected for review based on the amount of funds at risk for reimbursement, as well as the stated achievements when compared to the stated goals contained in the Program Implementation Plans. The programs with the largest amount of funding at risk were selected, as were the programs that did not achieve targets for energy savings, outreach goals to the hard-to-reach customer segment, or other program implementation metrics. Particular attention was given to the hard-to-reach goals since these were identified by the Commission as a priority (see Decision 02-03-056, pp. 50-51).

4.4 *Submit Claims Verification Requests to Utilities*

The SERA Team developed customized document/information requests for each of the selected milestones and submitted them to the utilities. The nature of the requests varied according to the type of milestone, but they were intended to solicit only the precise documentation necessary for the Team to ascertain whether or not the utilities had achieved the specific objectives described in the milestones. A description of the requests is provided below.

4.4.1 Expenditure-based Milestones

The SERA Team submitted requests to the utilities explaining that in order to assess their award claims for the Aggressive Implementation and Performance Adder milestones, the Team needed to verify program *expenditures and commitments* for various program categories for Program Years 1999, 2000, and 2001. This information was also requested for PY 2002 to assist the Team in assessing whether the utilities made reasonable efforts to implement authorized programs.

For each utility the request included four tables, one for each Program Year, that listed the program elements or categories for which the expenditures and commitments information was required. For expenditures, the utilities were requested to provide a mapping of accounting data to the items listed in the four tables. For commitments, the Team requested summary reports and copies of program tracking databases demonstrating the value of outstanding commitments as of the end of the relevant Program Year for each of the items listed in the four tables.

The requests varied slightly by utility depending on the program elements included in the award and on the type of accounting data available.

4.4.2 Energy Savings Milestones

Information Requests

In order to verify energy savings achievements, the SERA Team requested program databases and other documentation providing *ex ante* savings assumptions, unit installations, and calculation methodologies. These requests were intentionally general in nature, yet focused on what was to be documented and reviewed by the SERA Team, to allow the utilities to determine, for the unique circumstances surrounding each program, what documentation would best support their claims. The standard language used for all Energy Savings milestones for all utilities was as follows:

Research methodology and findings regarding energy savings (kW, kWh, therms) attributable to the program including: 1) *ex ante* values and assumptions, 2) copies of load impact studies used, 3) impact evaluation including surveys, databases and other information documenting research methodology, 4) number of installations including supporting data such as surveys, applications etc. used to determine number of installations.

Follow-up requests varied according to what each utility provided. Requests for explanation of the submitted materials were made as necessary, and for each Energy Savings milestone, the follow-up correspondence also requested the following:

1. Copies of applications, inspection reports, and other documentation that provided input data for energy savings calculations. These documents are requested only for the Project Codes listed in the Supplement to this Milestone Verification Request for this milestone.
2. If inspection reports are not available, indicate and provide evidence of what steps, if any, were taken to verify installation of the measures (e.g., on-site audits of a sample of projects). If there was no verification procedure, please state this fact and provide a rationale, if appropriate, for why such verification was not necessary.
3. (If available) Consultant studies or other documentation verifying installations, applicant eligibility, measure eligibility, and other aspects of the projects used in determining the validity and extent of energy savings.

Samples of Projects/Applications

Item #1 above refers to a supplement that lists Project Codes comprising samples from the program databases. In general, the SERA Team drew a stratified sample of 30 projects (or 30 applications, depending on the program), which typically correspond to 30 rows in the database (out of as many as several thousand). Some Energy Savings milestones (as disaggregated according to the methodology described in Section 4.3.2 above) are comprised of two or more programs, or encompass multiple end-uses or technologies. In such cases, the Team

determined the percentage of total kWh savings and the percentage of total therm savings attributable to each program/end-use/technology as appropriate. Based on this breakdown, the Team selected a subset of projects/applications from which to draw the most useful samples for both electricity and gas savings.

For example, if lighting accounted for 80% of total kWh savings for a program, then it may have been deemed appropriate to sample only lighting projects to address electricity savings; and if gas furnace rebates account for the vast majority of therm savings, then another sample of 30 may have been appropriate from this area. In some cases, multiple end-uses/technologies were combined into one sample. For example, if CFLs and T-8 lamps were the major contributors of electricity savings, then a single sample of 30 (15 each or proportionally distributed according to savings) would have been selected to represent the lighting program as a whole.

The samples themselves were determined according to energy savings and also through random selection. Typically, the projects/applications with the 10 highest energy savings values were included in the sample, as well as a random selection of the remaining projects/applications. Where the number of projects/applications in the databases was small, or in other circumstances, a variation of the above method was adopted.

4.4.3 Miscellaneous Milestones

Milestone verification requests for Market Effects, Activity, Base, and Administrative milestones did not follow a specific methodology, but rather were customized according to the unique objectives and indicators inherent in the milestones. In many cases the utilities or the CPUC proposed verification requirements, which the SERA Team used as the basis for its request. However, often there was no verification requirement provided or what was provided was, in the opinion of the SERA Team, too general to definitively demonstrate achievement of the milestone objectives.¹¹ Therefore, the Team requested documentation in the breadth and depth necessary to satisfy a criterion that both the letter and spirit of the milestone be met.

Table 4.6 provides examples of several milestones (in this case, from PG&E) and the verification requests that were sent to the utility.

Table 4.6 Sample Verification Requests for Miscellaneous Milestones

Milestone Description	Verification Request to the Utility
1. Select short list of bidders for lighting	1. Copy of signed and dated statement (or other documentation) verifying the selection of a short list of bidders
2. Have program open to accept applications, including statewide procedures manual; and statewide M&V procedures	2. Dated copy of Small Business SPC Program Procedures Manual, including application forms and statewide M&V procedures
3. Conduct pre-installation inspections of both 1998 and 1999 programs within specified number of working days after "complete" detailed application is received	3. Copy of report on inspection timing, including dates that "complete" detailed applications were received from project sponsor; and electronic or hard copy of project database used to produce report on inspection timing

¹¹ For example, one milestone called for the utility have a program open to accept applications by a given date, and the verification requirements were copies of applications, the procedures manual, and data files for tracking customer applications. However, none of items—even if date-stamped prior to the milestone target date—would demonstrate that the program was, in fact, "open." Therefore, the SERA Team requested evidence that the program had been announced to the target audience or that other actions were taken that demonstrated that the program was open prior to the target date.

Milestone Description	Verification Request to the Utility
4. Provide payment within specified number of working days after "complete" invoice is received for approved 1998 and 1999 projects	4. Report of payments, including dates that "complete" invoices were received for approved projects
5. Have program open to accept applications, including statewide procedures manual; system consistent across 3 utilities to track customer applications; and statewide contract	5. Dated copies of program applications, procedures manual, and statewide contract; and data files for tracking customer applications
6. Develop statewide program and have program open to accept applications in PG&E service territory	6. Dated copies of marketing materials and program applications, and the medium (e.g., database) used to track program participation
7. Increase retailer sales of ENERGY STAR® qualifying clothes washers to 16% of retailer total clothes washer sales in PG&E's service territory (for major retailers for which data are available - Sears, Montgomery Ward, and Circuit City).	7. Documentation used to determine retailer sales of ENERGY STAR® qualifying clothes washers as a percentage of retailer total clothes washer sales in PG&E's service territory (for major retailers for which data is available, i.e., Sears, Montgomery Ward, Circuit City). This documentation may include supporting reports, analyses, surveys, and databases.
8. Obtain ten HVAC distributors to actively participate in the residential HVAC distributor rebate program	8. Hard or electronic copy of program database and any other documentation demonstrating active participation of ten HVAC distributors in the residential HVAC distributor rebate program

4.5 Assess Milestone Award Claims

Once the utilities had submitted documents in response to the information requests, each of the selected claims was assessed. The SERA Team looked for concrete evidence that the milestone goals were met. The review included, where appropriate, an evaluation of the utilities' methodology in performing calculations or conducting studies to support their claims. The specific method for claims assessment varied according to the category of the milestones and often for each milestone within a category. The general approach taken for each of the major milestone categories is described in Section 5.

5 CLAIMS ASSESSMENT METHODOLOGY

The method by which the SERA Team assessed utility claims varied according to the category of the milestones and often for each milestone within a category. The general approach taken for each of the major milestone categories is described below. Common to all approaches is a final step in which the Team verified that the utility award claims correctly reflect the milestone award mechanism approved by the Commission. In other words, if the utility fully met the goals of the milestone, then this final review step verified that the utility did not claim more than the maximum approved award value; or if the primary goal was not fully met, then the Team evaluated the claim to assess whether any partial award claimed was consistent with the approved incentive mechanism.

5.1 *Expenditure-based Milestones*

Assessment of the Expenditure-based milestones consisted primarily of a determination of the percentage of approved program funds that were spent (or committed) in the categories defined by the Aggressive Implementation and Performance Adder award mechanisms. For purposes of these milestones, expenditures and commitments are treated equally.

In making the determination of expenditures, only funds spent during the relevant Program Year were counted. Funds from the relevant Program Year budget that are spent during subsequent years are not counted as expenditures for purposes of compliance with the milestone goals. However, committed funds that are recorded in program records as of December 31 of the Program Year are added to the expenditures amount. For example, assume that a PY 1999 program has a budget of \$1 million. If the utility spent \$750,000 during the PY 1999 and logged commitments of \$250,000 as of December 31, then the utility would have “spent” 100% of the budget amount. Even if the utility did not ultimately spend the full \$1 million in subsequent years, it is still entitled to count \$1 million in expenditures and commitments towards its milestone goal, based on the language in the documentation approved by the CPUC.

5.2 *Energy Savings Milestones*

The SERA Team established a systematic evaluation procedure that is applicable to all of the Energy Savings milestones, while allowing for review of the unique aspects of each program. Through this method, described in detail below, the SERA Team was able to ensure that all reviewed claims were treated equally as well as verify the accuracy of the savings achievements claimed in the AEAP filings. Specifically, application of this procedure helped to ensure the following:

1. the energy savings claims reported in the AEAP filings are supported by program databases
2. information in the databases is valid for the program and is supported by program applications, inspection reports, or similar documentation
3. the utilities utilized approved energy savings assumptions and methodologies

4. reasonable efforts were made to verify equipment installations and related activities performed as part of the programs (e.g., through post-installation inspections)

Throughout this process, any differences between the Energy Savings calculated by the SERA Team and the utility were noted. For major discrepancies, the utilities were contacted to make certain that the SERA Team was not misinterpreting the information provided in the supporting documents or otherwise mis-applying the milestone award mechanism. Where the Team determined that an adjustment in energy savings was necessary, the impact on the milestone award was calculated and presented in the assessment of the milestone.

Review of the Energy Savings milestones also included the “Bonus” award created by the CPUC in Decision 01-01-060, pp. 26-27 (see Section 4.4.2 for a description of this award). The Commission explains that utilities were eligible to earn incentive awards on a program-area basis, but that “in order to encourage the utilities to meet *all* of their [energy savings] targets,” the Commission “will give utilities who meet *all* of their program area and kWh, MW, and therm savings targets a 5% shareholder incentive bonus” [emphasis added]. The SERA Team interprets this language to indicate that the utilities may receive the bonus award only if they meet each and every energy savings target approved by the Commission.¹²

5.2.1 Program Database Support for AEAP Claims

Before embarking upon detailed reviews of the program databases and the projects contained in them, the SERA Team first conducted a simple check of whether the databases contained savings figures corresponding to the values claimed by the utilities. As discussed in Section 3.2.2 above, savings for the Energy Savings milestone awards were presented at the Program Area level for kilowatts, kilowatt-hours, and therms. The SERA Team then disaggregated these savings figures according to the program groupings presented in the utilities’ energy efficiency program annual reports. Since the information requests asked for program databases corresponding to these program groupings, the SERA Team was able to match the database values to the disaggregated milestone savings figures, thereby verifying the utilities’ claimed savings.

This assessment was conducted for each of the program groupings selected for detailed review as well as additional groupings for which only the program databases were requested.

5.2.2 Database Information Valid and Supported by Other Documentation

Once the SERA Team established that the savings figures in a program database corresponded to the savings values claimed by the utility, it was necessary to verify the validity and accuracy of the information in the database. For example, a given program may only accept projects initiated in PY 2001 and that include specific types of equipment. The Team reviewed the databases and, where appropriate, the sample of program applications to screen for ineligible projects that were erroneously included in the databases.

Perhaps the most important aspect of the database review is the verification of the project information contained in the databases. This primarily entails reviewing program applications or inspection reports to confirm that the number and type of equipment installations matches the entries in the database. Any errors were noted and the resulting impact on energy savings was

¹² Utilities could have up to nine unique energy savings targets: one each for kWh, MW, and therms for each of the three Program Areas.

calculated. For major discrepancies, the utilities were contacted to make certain that the SERA Team was not misinterpreting the information provided in the supporting documents.

5.2.3 Use of Approved Assumptions and Methodologies

As approved by the CPUC (Decision 01-01-060), energy savings are calculated using *ex ante* values approved by the Commission. These estimated energy savings are a function of not only the equipment installed (which was verified in the step above), but also the assumptions regarding per-unit demand reduction, operating hours, and other factors. Since these assumptions are major determinants of energy savings, the SERA Team explicitly verified that the correct values were utilized in the databases to determine energy savings. In general, the Team reviewed assumptions contributing to the determination of gross kW, kWh, and therms, and also the net-to-gross ratio that was applied to these values.

Depending on the complexity of the databases (e.g., the number of unique end uses or technologies) and whether the databases were provided via an electronic spreadsheet, the SERA Team calculated either all or a sample of the assumptions that were implicit in the data. For example, a database of lighting measures may have provided the number of fixtures and the gross kW savings values for each project site. By dividing savings by the number of fixtures, the Team was able to discern the utility's assumptions regarding demand reduction per unit. These implicit assumptions were then compared to the approved *ex ante* values (from the Workpapers filed with the utilities' program applications) to determine whether the correct values had been utilized.

For many end-uses and technologies, the approved *ex ante* values vary according to the type of building or the region within the service territory. Consequently, the most exhaustive review was performed on the projects/applications that were selected for the sample, since the SERA Team typically had the information necessary to identify the exact *ex ante* values appropriate for the project.

5.2.4 Verification/Inspection of Project Activities

In its information requests, the SERA Team specifically asked for evidence of what steps, if any, were taken to verify installation of the measures included in the program databases. In some cases, the utilities provided project-specific inspection reports in response to the Team's request for a sample of the documentation that provided input data for energy savings calculations. In others, the utilities provided other documentation such as third-party reports describing on-site post-installation audits that were conducted for a sample of projects.

This step is essential for determining whether the utilities made reasonable adjustments to reflect the realized gross savings, as opposed to the unadjusted savings reported through program applications. Realization rate are often in the range between 95% and 99%, reflecting the fact that some proposed projects fail to be implemented or are scaled down from the original scope, and others may be at sites that reduce operating hours independent of the project, thereby reducing the energy savings impact of the measures.

5.3 Miscellaneous Milestones

Many milestones are based neither on spending nor energy savings, but rather on a variety of other criteria from influencing the market for energy efficiency products by a specified amount to

simply conducting prescribed activities by a specified target date. The method of assessment for these milestones is very specific to the milestone in question and may include:

- Reviewing dated program materials
- Evaluating the strength of market research studies claiming to measure changes in the market for products
- Verifying the existence of customer rebate applications and utility rebate checks

5.4 Program Year 2002

In reviewing the PY02 efforts and achievements the SERA Team utilized the utilities' Program Implementation Plans (PIPs), their fourth quarter energy efficiency program reports, and responses to document requests. The PIPs describe the programs and their implementation, including budgets and specific goals for energy savings, outreach for hard-to-reach customers, and other program-specific metrics. The fourth quarter reports, submitted after the end of the program year, contain program expenditures and the utilities' discussion of their efforts toward meeting program goals.

The SERA Team sought to verify that program goals were achieved or, at a minimum, determine that reasonable efforts had been made by the utilities to implement the programs and achieve the goals. According to the Commission, "What is reasonable will depend on the particular program and expenditure, but will be judged on an objective basis. Moreover, any deduction...will be proportional to the provider's unreasonable failure to meet targets." The Commission added that "If, on the other hand, the provider takes reasonable steps to meet goals, but nonetheless fails to do so, the Commission will not hold back the specified funding amount" (Decision 02-03-56, p. 56).

Verification of goals typically included a request for supporting documentation similar to the review of milestones in previous program years. Where goals were not fully achieved, factors that the SERA Team considered in assessing the reasonableness of efforts included:

- **Partial achievement of goals.** Utilities' partial success in achieving program goals was used as an indicator of their efforts. For example, if a utility achieved only 50% of a program goal, the SERA Team may have sought more thorough documentation of program efforts than if the utility had achieved 90% of the goal.
- **Program expenditures.** Failure to spend available program funds raised a flag if the utility also failed to achieve the goals. While making good, efficient use of program funds is viewed positively, utilities were asked to justify their lack of spending when goals were not fully achieved.
- **Specific efforts taken toward achievement of goals.** In their fourth quarter reports, the utilities often identified efforts taken to make the programs successful. These efforts, as well as others identified through requests from the SERA Team were considered in determining whether reasonable efforts were expended.
- **Documentation of efforts.** Hard copies and other documentation of the efforts made to market the programs, overcome barriers, and achieve program goals were reviewed for their relevance and importance in supporting the utilities' claims.

Section 6, entitled “Findings and Implications for Utility Awards”, discusses the specific reviews for each IOU as described in Section 5; specific assessments conducted for Miscellaneous milestones, and a brief description of the assessment for every milestone is also included in the milestone verification tables presented in Appendices A-1 through A-4.

6 FINDINGS AND IMPLICATIONS FOR UTILITY AWARDS

6.1 Summary of Findings and Implications

Across the four utilities, the SERA team has identified a total of \$59.4 million in awards for which we were able to identify supporting documentation toward milestone achievements for PY 1999 through PY 2001 (Table 6.1). This represents 94% of the \$65.5 million claimed by the utilities in their AEAP filings, including 96% of PG&E's total claim, 94% of SCE's claim, 89% of SCG's claim, and 89% of SDG&E's claim. These computations of award values and dollars potentially at risk are based on an assessment of 127 individual milestones (30% of milestones) representing 50% of the value of all claims. These milestones representing 44% of PG&E's total claim, 52% of SCE's claim, 61% of SCG's claim, and 47% of SDG&E's claim (see Table 6.1).¹³ In total, for PY 1999-2001, The SERA Team has identified \$4.06 million in milestone incentive awards as potentially at risk.

Table 6.1 Milestone Values Verified and Potentially Not At Risk, by Utility (PY 1999-2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim for Award Not at Risk
PG&E	44%	\$29,281,595	\$30,617,972	95.6%
SCE	52%	\$19,232,758	\$20,386,000	94.3%
SCG	61%	\$5,035,100	\$5,652,889	89.1%
SDG&E	47%	\$7,919,447	\$8,873,663	89.2%
Total	50%	\$61,468,900	\$65,530,524	93.8%

For PY 2002, accomplishments and efforts were reviewed for all 73 programs administered by the four utilities. For these programs, whose total expenditures were \$164.3 million, the SERA Team noted achievements toward goals in energy savings, hard-to-reach customer outreach, and other specific areas. Based on these achievements and the size of the program budgets, a total of 33 programs (accounting for \$114.7 million, or 70% of all PY02 expenditures) were selected for more detailed review. For these 33 programs, the level of expenditure reimbursement subject to approval by the Commission is approximately \$25.8 million.¹⁴ Although the SERA Team reviewed documentation that could support claims that "reasonable efforts" were made toward achieving goals by all four utilities, the SERA Team has identified 10 specific programs that the Commission may wish to review more closely prior to granting

¹³ The total award for all utilities of \$59.4 million assumes that claims *not explicitly assessed* are granted an award equal to the proportion of claimed dollars for which documentation supported approval of the claims that *are explicitly assessed*. If it is assumed instead that claims not explicitly assessed receive the full award claimed by utilities, then the total award would be \$59.4, or 91% of the \$65.53 million claimed by the utilities.

¹⁴ For energy savings programs, the final 15% of program costs is subject to refund if the utilities unreasonably fail to meet program goals. For information-only programs, the entire final quarterly payment is subject to refund. According to the commission, deductions "will be proportional to the providers' unreasonable failure to meet targets" (see Decision 02-03-056, March 21, 2002, pp. 55-56 and Ordering Paragraphs 18 and 19, pp. 67-68).

approval of full reimbursement of program costs.¹⁵ These 10 programs represent up to \$4.25 million that are subject to refund if the commission determines that reasonable efforts were not made; however, no specific program costs have been identified as potentially at risk by the SERA Team.

Table 6.2 PY 2002 Programs Potentially Needing Further Consideration, by Utility (\$ in thousands)

	Total Number of Programs	Total Program Costs	Total Program Costs Subject to Review	Potentially Needing Further Review by CPUC	
				Number of Programs	Value of Programs
PG&E	17	\$62,400	\$10,640	3	\$2,328.45
SCE	23	\$63,950	\$11,675	2	\$483.0
SCG	13	\$16,692	\$2,965	2	\$690.0
SDG&E	20	\$21,311	\$3,492	3	\$753.5
Total	73	\$164,350	\$28,772	10	\$4,254.95

¹⁵ Energy savings goals for the Multifamily Energy Efficiency Rebate program may have been artificially high, as the baseline used to establish the goals was derived from the 2001 Residential Contractor Program, and none of the utilities were able to meet the designated energy efficiency goals.

6.2 PG&E

Documentation sufficient to support an award of \$29.28 million to PG&E for its milestone achievements for PY 1999 through PY 2001 was reviewed by the SERA Team. This represents 96% of the \$30.62 million claimed by PG&E in its AEAP filings (Table 6.3). The award values are based on an assessment of 32 individual milestones representing 44% of the value of all claims, including all of the Expenditure-based claims, 68% of the Energy Savings claims, and 24% of the Miscellaneous milestone claims.¹⁶ Within each of these milestone categories, the proportion of claimed dollars that was approved by the SERA Team was then applied to the remaining claims within that category to allow for an extrapolation of a total claim award value for each category.¹⁷

Table 6.3 Milestone Values Verified and Potentially Not At Risk for PG&E (PY 1999-2001)

Milestone Type	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim for Award Not at Risk
Expenditure-based	100%	\$3,220,777	\$3,248,174	99.2%
Energy Savings	68%	\$7,748,000	\$8,240,000	94.0%
Miscellaneous	24%	\$18,312,817	\$19,129,798	95.7%
Total	44%	\$29,281,595	\$30,617,972	95.6%

PG&E's PY99 claims are all based on its March 25, 1999 Advice Letter 2117-G-A/1819-E-A, which was approved by the Commission in Resolution E-3592, dated April 1, 1999. A verification plan was added in Advice Letter 2117-G-E/1819-E-E, filed November 24, 1999 and approved by the Energy Division on February 8, 2000. Milestones for PY00 were identified and partially approved by the Commission in Decision 00-07-017, dated July 6, 2000. PG&E issued a compliance filing on August 7, 2000 that updated the milestones and award values per the Commission order. A subsequent proposal, accepted by the Commission, raised the value of each potential residential award by \$7,056. Milestones for PY01 are contained in PG&E's application for Year 2001 Energy Efficiency Programs (Application No. 00-11-037, November 15, 2000). The milestones were approved, with significant adjustments, in CPUC Decision 01-01-060, dated January 31, 2001. Final program budgets, which are relevant to the Expenditure-based milestones, were contained in PG&E's first quarterly report, issued in May 2001. For PY02, program goals and budgets are contained in PG&E's Program Implementation Plans submitted in May 2002 in response to Commission Decision 02-03-056. PG&E's fourth quarter energy efficiency program reports submitted in May 2003 contain program expenditures and the utility's discussion of its efforts toward meeting program goals.

¹⁶ Awards for each milestone in the Energy Savings category are based on the collective achievements in many individual programs. The SERA Team assessed programs representing approximately 68% of the Energy Savings claims (66% of the claimed energy savings, plus the bonus award).

¹⁷ The total award for PG&E of \$29.28 million assumes that claims *not explicitly assessed* are granted an award equal to the proportion of claimed dollars for which documentation supported approval for the claims that *are* explicitly assessed. If it is assumed instead that claims not explicitly assessed receive the full award claimed by PG&E, then the total award would be \$29,905,442, or 98% of the \$30.62 million claimed by PG&E. (This caveat affects only the Miscellaneous milestones category since 100% of Expenditure-based milestones were assessed and Energy Savings milestones were already supported for 100% of the claimed award (not including the Bonus award, which was assessed in its entirety).

6.2.1 Expenditure-based Milestones

For Expenditure-based milestones claims, the SERA Team was able to locate documentation sufficient to support a total of \$3.22 million, or 99% of the \$3.25 million claimed over Program Years 1999 through 2001. A total of two percent of the Expenditure-based claim in PY 1999 is computed to be potentially at risk for approval, and our analysis finds no claims at risk in the subsequent years (see Table 6.4).

Table 6.4 Assessment of Expenditure-based Milestone Awards for PG&E (PY 1999-2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim for Award not at Risk
1999	100%	\$1,399,721	\$1,427,118	98.1%
2000	100%	\$1,329,056	\$1,329,056	100%
2001	100%	\$492,000	\$492,000	100%
Total	100%	\$3,220,777	\$3,248,174	99.2%

There are three awards for PY1999, one for each program area according to governing documents. PG&E receives the full award in the program area by spending (including commitments) at least 90% of the approved budget. Spending 70% warrants the lesser “Target 2” award, and expenditures between 70% and 90% of budget are rewarded through linear interpolation. Further, for each program that does not spend at least 50% of its budget, the award for the associated program area is reduced by 10%. Maximum award values are \$1.183 million for residential spending, \$1.487 million for non-residential spending, and \$475,000 for spending on new construction programs.

PG&E claims a partial award for the Residential Program Area (based on expenditure of \$30.2 million, or 78.3% of budgeted funds), no award for Non-residential (due to expenditures of less than 70% of budget), and a full award for New Construction (based on expenditures of 96% of budget). The SERA Team agrees that the New Construction expenditures exceed the 90% threshold and that the full claim can be supported. However, according to detailed expenditure data provided by PG&E and “mapped” into the appropriate programs by the SERA Team, and also based on commitment data provided by PG&E, residential spending amounted to only 76.9% of the budget (\$30.65 million out of a \$39.86 million budget) (Table 6.5). This corresponds to an award of \$924.7 million, about 97% of the \$952.1 million claimed by PG&E.¹⁸

Table 6.5 Expenditures for Residential Programs by PG&E (PY 1999)

1999	Expenditures	Commitments	Total	Budget	Total/ Budget
Residential Heating and Cooling	\$3,256,508	\$0	\$3,256,508	\$6,200,000	52.5%
Residential Lighting	\$4,890,597	\$6,000	\$4,896,597	\$6,988,000	70.1%
Residential Appliances	\$13,025,596	\$54,000	\$13,079,596	\$11,735,000	112%
Residential Retrofit and Renovation	\$6,889,138	\$2,533,000	\$9,422,138	\$14,940,000	63.1%
Total	\$28,061,840	\$2,593,000	\$30,654,840	\$39,863,000	76.9%

For PY2000, the Expenditure-based award is comprised of six specific information programs, each of which has a spending threshold of 90% of the approved budget, above which the full award may be earned. PG&E claims the full award for five programs and no award for one

¹⁸ The maximum and Target 2 awards for spending in residential programs is \$1.183 million and \$788,667, respectively.

program, for a total of \$1.329 million. The SERA Team determined that spending was at least 90% of the approved budget for each of the five programs for which PG&E claims an award. Therefore, the full claim amount should be approved.

In PY2001, there is only a single expenditure-based milestone award, covering 15 programs and worth \$492,000. The full award, which is claimed by PG&E, is earned for aggregate expenditures among these programs of 95% or more of the total approved budgets. Based on a review of expenditures, it was determined that total expenditures exceeded 95% of the aggregate program budgets, supporting PG&E's claim in full.

6.2.2 Energy Savings Milestones

The SERA Team finds support for PG&E's claims of \$7.748 million for claims related to Energy Savings milestones, all of which were in PY2001. This award represents 100% of the claims referred to by PG&E and the CPUC as "energy savings." However, PG&E failed to meet all the requirements for the energy savings "Bonus" award, for which the utility claims \$492,000. Including the potential value of this bonus award, we find 6% of the claim dollars to be potentially at risk; the verified portion of the award represents 94% of all Energy Savings claims, as defined in this report. Including the bonus award, the assessment covered claims representing 68% of all claimed dollars.

Table 6.6 Assessment of Energy Savings Milestone Awards for PG&E (PY 2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Energy Savings	66%	\$7,748,000	\$7,748,000	100%
Bonus Award	100%	\$0	\$492,000	0.00%
Total	68%	\$7,748,000	\$8,240,000	94.0%

Energy Savings Claims (not including "Bonus" award)

The assessment of Energy Savings claims applied the methodology described in Section 5.2 to verify the accuracy of the savings achievements claimed in PG&E's PY2002 AEAP filing (for PY2001 programs). Specifically, as described in Section 4.3.2, the SERA Team assessed the three program groupings that represented the largest share of energy savings within each of the three program areas. These program groupings and their associated program areas were as follows:

- Upstream Programs/Financial Assistance (Residential),
- Energy Efficiency Initiatives/Downstream Express Efficiency (Non-residential), and
- Non-residential New Construction (New Construction).

The SERA Team concluded that all of the energy savings claimed by PG&E for each of these program groupings is accurate. These groupings account for 66% of the total energy savings claimed by PG&E. The proportion of energy savings that the SERA Team found to be supported by the documentation (i.e., 100%) was then applied to the savings from the remaining program groupings to allow for determination of revised energy savings achievements within each program area. These revised figures were then used to adjust, as necessary, the claimed awards. Since 100% of the assessed savings were deemed legitimate, the SERA Team has been able to verify activities related to 100% of the PG&E claim of \$7.748 million for all non-bonus Energy Savings milestone awards.

Upstream Programs/Financial Assistance: The program databases provided by PG&E supports the utility's claims for kW, kWh, and therm savings. In addition, the SERA Team examined a sample of 20 lighting applications (compact fluorescent bulbs) and 30 HVAC applications (gas furnaces), as well as detailed, customer-specific program records for participants in the appliances element of the program (clothes washer with gas water heating) to ensure that the number and type of units in the databases were accurate. The ex-ante assumptions used in calculating energy savings were also verified. Although PG&E did not provide inspection reports, it claims to have conducted either site inspections or telephone verification installations.

Energy Efficiency Initiatives/Downstream Express Efficiency: PG&E's program database supports its energy savings claims. The Express Efficiency program covers many end-uses and technologies, including lighting, agricultural processes, refrigeration, and space heating. Where the program database provided sufficient information, the energy savings figures were assessed to verify that appropriate assumptions were utilized (e.g., the figures for kW and kWh savings per CFL or T-8 fixture from the Workpapers). In addition, a sample of applications and other documentation for selected lighting and other measures was reviewed to ensure that the input data for the energy savings calculation, such as number of units installed, was correct.¹⁹ Smaller lighting projects included signed forms from installers indicating that the installation was complete. Larger lighting projects received third-party inspections showing that actual installations were fewer than was reported in the applications. In its database, PG&E correctly used these lower unit installation figures from the inspection reports.²⁰ Therms savings came predominantly from greenhouse "heat curtain" projects, for which third-party inspections were provided for a sample of 25 projects. All installations recorded in the database were supported by the inspection reports.

Non-residential New Construction: The program database provided by PG&E for the Savings by Design program supports the utility's claims for kW, kWh, and therm savings. As prescribed in the approved Workpapers, energy savings projections included in the database are based on the results of sophisticated building energy modeling runs, as opposed to the simple ex-ante assumptions and unit installations that apply to most other programs. Therefore, the SERA Team examined documentation for a sample of 30 projects to ensure that the energy savings values in the database accurately reflected the modeling analysis that was performed as part of the program.

Bonus Award

The SERA Team finds PG&E's claim for the energy savings "bonus" award of \$492,000 to be potentially at risk. The Commission stated that utilities would be eligible to earn incentives for energy savings accomplishments on a *program area basis*, and not on a *portfolio* basis. By contrast, the bonus award, as described by the Commission in Decision 01-01-060, pp. 26-27, was created specifically "in order to encourage the utilities to meet *all* of their [energy savings] targets." Consequently the bonus award may be claimed by utilities "who meet *all* of their program area and kWh, MW, and therm savings targets." [Emphasis added.] The SERA Team interprets this language to indicate that the utilities may receive the bonus award only if they

¹⁹ 84% of annual kWh savings for the Express Efficiency program were from lighting measures. Within the lighting category, screw-in CFLs and T-8 lamps accounted for 64% of the savings, whereas the next highest lighting technology accounted for only 8% of savings from lighting. Therefore, sampling focused on these two lighting technologies.

²⁰ PG&E provided either installer forms or inspection reports for only about one-third of all the lighting measures in the sample. It is not clear to the SERA Team whether this is due to an omission by PG&E or whether a portion of projects are not required to provide any form of verification of installations. Without complete verification documentation, it is not possible to verify with a high degree of certainty that all equipment recorded in the program database were installed.

meet each and every energy savings target approved by the Commission. Although PG&E exceeded several of its energy savings targets by significant amounts, it claims to have achieved only seven of the nine targets.²¹

6.2.3 Miscellaneous Milestones

The SERA Team has been able to verify and support \$18.31 million in claims for PG&E in the Miscellaneous category; our analysis finds about 4% of the \$19.13 million claimed in PG&E's AEAP filings for PY 1999 through PY 2001 (Table 6.7) is potentially at risk. Twelve claims representing 24% of the claimed award dollars were evaluated, and the results (i.e., percent of claimed dollars that can be verified and supported) were extrapolated to the remaining claims.²² Ten of the 12 award claims were approved in full, and two were reduced as a result of either insufficient support for the claim or documentation indicating that the utility's achievement warranted a lesser award. Assessments and award amounts supported versus potentially at risk for each of the 12 reviewed claims are presented in Appendix A-1. The adjusted rewards are

- 1) 2001 Milestone PG&ENR6, which addressed the Tool Lending Library and
- 2) 1999 Milestone 55, regarding prompt payment of incentives for the large SPC program.

Table 6.7 Assessment of Miscellaneous Milestone Awards for PG&E (PY 1999-2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Total	24%	\$18,312,817	\$19,129,798	95.7%

6.2.4 PY 2002

The SERA Team reviewed accomplishments and efforts for all 17 of PG&E's PY02 programs, noting achievements toward goals in energy savings, hard-to-reach customer outreach, and other specific areas. Total expenditures for these programs were \$62.4 million. Based on these achievements and the size of the program budgets, eight programs (accounting for \$46.3 million, or 74% of all PY02 expenditures) were selected for more detailed review. For these eight programs, the level of expenditure reimbursement subject to approval by the Commission is approximately \$7.7 million.

Six of the eight programs reviewed in detail had explicit energy savings goals, and PG&E did not fully meet the energy savings goals for any of these programs. In most cases, some of the goals were met (i.e., one or more of the goals for kW, kWh, and therms). PG&E claims to have met all goals for hard-to-reach (HTR) customer segments, but the SERA Team has identified

²¹ According to PG&E's *Energy Efficiency Annual Report* submitted as part of its 2002 AEAP filing, PG&E achieved 98% of the target for residential therms savings and 98% of the target for non-residential kWh savings. PG&E believes that the utility is entitled to the Bonus award since it over-achieved significantly in several areas, while failing to meet two of the nine targets by just two percentage points. There is some ambiguity in the wording used by the Commission in establishing the Bonus award, and the Commission may wish to consider PG&E's argument in favor of receiving the award, or a portion thereof.

²² The sample of 12 claims that was assessed represents \$4.522 million, of which \$4.329 million (96%) is recommended for approval. This recommendation assumes that claims *not explicitly assessed* are granted an award equal to the proportion of claimed dollars recommended for approval for the claims that *are explicitly assessed*. If it is assumed instead that claims not explicitly assessed receive the full award claimed by PG&E, then the total recommended award would be \$18,936,665, or 99% of the \$19.13 million claimed by PG&E under the Miscellaneous milestone category.

two programs for which goals may not have been fully achieved (out of the seven programs for which an HTR goal was established).

Verification of Achievements

The first step in evaluating the reasonableness of PG&E's efforts was to verify the achievements claimed in the fourth quarter report. Program databases provided by PG&E supported the claim figures for all six programs with energy savings goals. The only possible caveat is for the Savings by Design program, for which a net-to-gross ratio of 0.94 was applied to "Process" measures—as compared to the 0.62 ratio that was applied to all other measures and that appears in the Workpapers provided by PG&E. Using the 0.62 ratio would lower the energy savings figures by between 13% and 29%, depending on which energy savings metric is being evaluated. The adjusted figures show that PG&E would still meet the kWh savings goal; kW and therm savings achievements would drop from 67% and 78% of the goal, respectively, to 58% and 55% of the goal.

Claims for HTR goals are fully supported by PG&E databases for five of the seven programs with HTR goals. For the Express Efficiency program, the Small Business HTR goal was met and supported by the database, but the geographic HTR figure appears to be based on an incorrect calculation. One of two HTR goals is that 40% of applications be from geographic HTR customers; however, PG&E first calculated the Small Business HTR figure and then uses only the remaining pool of applications from which to calculate its geographic HTR figure. Instead of 43% of all applications coming from geographic HTR customers, as claimed by PG&E in an update submitted to the SERA Team, the true figure should be only 19%, well below the goal.

In the Multifamily Energy Efficiency Rebates program, PG&E claims that 40 out of 133 applications (30%) were from HTR customers, exactly meeting the program goal. However, the program database provided for energy savings data shows 242 unique application codes. Unless a large share of the applications were from the same customers, then the percentage of applications from HTR customers should be only 17%.

Assessment of "Reasonable" Efforts

The fact that PG&E did not meet all program goals, or that some of its claimed achievements cannot be fully verified, does not necessarily indicate that the utility must refund any of the funds that it has collected as reimbursement of program costs. As stated previously, PG&E need only demonstrate "reasonable" efforts to meet program goals. In its fourth quarter report, PG&E has provided much detail on its efforts to promote the programs, overcome barriers, and meet the stated goals. These efforts were summarized by the SERA Team for each program and additional explanation was requested in several areas related to mid-year changes in approach and to justification of program expenditures.

For example, PG&E claimed to have conducted additional marketing efforts in a mid-year attempt to increase lagging participation in the Multifamily Energy Efficiency Rebates program. In response to a SERA Team request, PG&E provided marketing postcards and flyers sent to the target market announcing, in part, that cash rebates were "still available." PG&E also provided documentation of its efforts to change rebate levels between measures and to shift funds toward more popular measures in hopes of increasing participation. Regarding expenditures, PG&E also provided detailed and well-justified explanations, as requested for

three programs, related to why program funds were not exhausted despite some program goals going unmet.

Overall PY02 Assessment

PG&E's fourth quarter report and its responses to inquiries by the SERA Team clearly demonstrate that significant efforts were expended implementing all PY02 programs. However, program achievements were far below the established goals for at least two programs, and several HTR goals were either not met or the level of achievement is in question. The SERA Team is not recommending that PG&E refund program payments, and certainly not the full 15% that is subject to review. However, the Commission may wish to review more closely efforts for the following programs prior to granting approval of full reimbursement of program costs:

Multifamily Energy Efficiency Rebates: Expenditures for this energy savings program were \$1.79 million, and payments subject to review are \$267,900. PG&E failed to meet any of its energy savings targets (66% of the goal for kWh savings, 19% for kW, and 10% for therms), similar to the experiences of the other three IOUs. In addition, the utility claims to have met HTR goals, but the databases provided raise questions about the validity of the calculations used in determining HTR achievements (see Verification of Achievements, above). In support of its efforts, PG&E provided in its fourth quarter report a detailed description of its efforts to promote the program, and PG&E provided the SERA Team with excellent documentation of specific efforts for which verification was requested. PG&E also gave a detailed explanation of why program funds were not fully expended despite goals not being achieved (see Appendix B-1).

California Energy Star New Homes: Expenditures for this energy savings program were \$4.83 million, and payments subject to review are \$724,050. PG&E achieved only 22% of its kW and kWh savings targets, although it exceeded its therm savings goal by nearly double. HTR achievements also far exceeded goals. Given the low achievements for electricity savings, a thorough review of PG&E's efforts may be warranted. The fourth quarter report and PG&E's submission to the SERA Team regarding program expenditures (see Appendix B-1) should provide the Commission with substantial material from which to make a ruling.

Express Efficiency: Expenditures for this energy savings program were \$8.91 million, and payments subject to review are \$1,336,500. PG&E achieved only 87% of its kWh and 70% of its kW savings targets, although it did achieve the therm savings goal. PG&E claimed to have met both of the HTR goals (based on business size and geography), but a review of the databases provided indicates that the calculation for the geographic HTR achievement may have been performed incorrectly (see Verification of Achievements, above). PG&E's fourth quarter report and its submittal to the SERA Team regarding program expenditures (see Appendix B-1) should provide the Commission with substantial material from which to make a ruling on the reasonableness of PG&E's efforts to achieve program goals.

6.3 SCE

The SERA team was able to examine and verify claims associated with \$19.23 million for SCE's milestone achievements for PY 1999 through PY 2001. This represents 94.3% of the \$20.39 million claimed by SCE in its AEAP filings (Table 6.8); based on the results of the analysis, 6.3% of the incentives could be potentially at risk. These computations are based on an assessment of 31 individual milestones representing 52% of the value of all claims, including all of the Expenditure-based claims, 45% of the Energy Savings claims, and 40% of the Miscellaneous milestone claims. Within each of these milestone categories, the proportion of claimed dollars that was approved by the SERA Team was then applied to the remaining claims within that category to allow for determination of an assessment of the claim award value potentially at risk vs. verified for each category.

Table 6.8 Milestone Values Verified and Potentially Not At Risk for SCE (PY 1999-2001)

Milestone Type	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Expenditure-based	100%	\$3,818,000	\$3,818,000	100%
Energy Savings	45%	\$4,752,000	\$4,752,000	100%
Miscellaneous	40%	\$10,662,758	\$11,816,000	90.2%
Total	52%	\$19,232,758	\$20,386,000	94.3%

6.3.1 Expenditure-based Milestones

For Expenditure-based milestones claims, the SERA Team finds documentation sufficient to support approval of \$3.818 million, or 100% of the amount claimed over Program Years 1999 through 2001.

Table 6.9 Expenditure-based Milestone Awards for SCE (PY 1999-2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
1999	100%	\$2,152,000	\$2,152,000	100%
2000	100%	\$1,386,000	\$1,386,000	100%
2001	100%	\$280,000	\$280,000	100%
Total	100%	\$3,818,000	\$3,818,000	100%

There are three awards for PY1999, one for each program area. The SERA Team has identified none of SCE's award claims in these program area as being potentially at risk. By spending (including commitments) at least 90% of the approved budget, SCE is eligible for "Target 1" awards. Spending 70% warrants the lesser "Target 2" award, and expenditures between 70% and 90% of budget are rewarded through linear interpolation. Further, for each program that does not spend at least 50% of its budget, the award for the associated program area is reduced by 10%. Maximum award values are \$753,000 for residential spending, \$1.076 million for non-residential spending, and \$323,000 for spending on new construction programs. SCE claims the full award for each of the Residential, Non-residential and New Construction program areas in 1999. The SERA Team finds documentation sufficient to support the finding that the expenditures exceed the 90% threshold and supports the granting of the full claim.

Similarly, for PY2000, the Expenditure-based award has a spending threshold of 90% of the approved budget, above which the full award may be earned. SCE claims the full award for all programs. The SERA Team determined that spending was at least 90% of the approved budget for each of the programs for which SCE claims an award; therefore, no dollars in this claim are identified as being potentially at risk.

In PY2001, there is only a single expenditure-based milestone award, covering 15 programs and worth \$280,000. The full award, which is claimed by SCE, is earned for aggregate expenditures among these programs of 95% or more of the total approved budgets. Based on a review of expenditures, it was determined that total expenditures exceeded 95% of the aggregate program budgets, supporting SCE's claim in full.

6.3.2 Energy Savings Milestones

The SERA Team has identified no dollars potentially at risk from SCE's award claim of \$4.472 million for claims related to Energy Savings milestones, all of which were in PY2001. This award represents 100% of the claims referred to by SCE and the CPUC as "energy savings." Additionally, SCE meet all the requirements for the energy savings "Bonus" award, for which the utility claims \$280,000.

Table 6.10 Energy Savings Milestone Awards for SCE (PY 2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Energy Savings	45%	\$4,472,000	\$4,472,000	100%
Bonus Award	100%	\$280,000	\$280,000	100%
Total	52%	\$4,752,000	\$4,752,000	100%

Energy Savings Claims (not including "Bonus" award)

The assessment of Energy Savings claims applied the methodology described in Section 5.2 to verify the accuracy of the savings achievements claimed in SCE's PY2002 AEAP filing (for PY2001 programs). Specifically, as described in Section 4.3.2, the SERA Team assessed the three program groupings that represented the largest share of energy savings within each of the three program areas. These program groupings and their associated program areas were as follows: Refrigerator Recycling (Residential), Express Efficiency (Non-residential), and Savings by Design (New Construction).

The SERA Team concluded that all of the energy savings claimed by SCE for each of these program groupings can be supported by the documentation supplied and reviewed. These groupings account for 66% of the total energy savings claimed by SCE. The proportion of energy savings that can be supported (i.e., 100%) was then applied to the savings from the remaining program groupings to allow for determination of revised energy savings achievements within each program area. These revised figures were then used to adjust, as necessary, the claimed awards. Since 100% of the assessed savings were supported, the calculations support the approval of SCE's full claim of \$4.472 million for all non-bonus Energy Savings milestone awards.

The following is a brief description of the findings for each of the three program groupings assessed:

Residential Appliance Recycling Program: The program databases provided by SCE supports the utility's claims for kW and kWh savings. In addition, the SERA Team examined a sample of 30 refrigerator recycling work orders with detailed, customer-specific program records for participants in the program to ensure that the number and type of units in the databases were accurate. The ex-ante assumptions used in calculating energy savings were also verified. Although discrepancies in the number of refrigerators collected were noted, these discrepancies supported a number greater than that claimed by SCE and no claims were deemed potentially at risk.

Express Efficiency: SCE's program database supports its energy savings claims. The Express Efficiency program covers many end-uses and technologies, including lighting, agricultural processes, refrigeration, and space heating. Program database were assessed to verify that appropriate assumptions were utilized.²³

Savings by Design: The program database provided by SCE for the Savings by Design program supports the utility's claims for kW and kWh savings. As prescribed in the approved Workpapers, energy savings projections included in the database are based on the results of sophisticated building energy modeling runs, as opposed to the simple ex-ante assumptions and unit installations that apply to most other programs. Therefore, the SERA Team examined documentation for a sample of 30 projects to ensure that the energy savings values in the database accurately reflected the actual application savings and installed savings. Inspection reports and applications for the sample of projects were provided to substantiate all energy savings in the database.²⁴

Bonus Award

The SERA Team was able to review documentation sufficient to support SCE's claim for the energy savings "bonus" award of \$280,000. The Commission stated that utilities would be eligible to earn incentives for energy savings accomplishments on a *program area basis*, and not on a *portfolio* basis. By contrast, the bonus award, as described by the Commission in Decision 01-01-060, pp. 26-27, was created specifically "in order to encourage the utilities to meet *all* of their [energy savings] targets." Consequently the bonus award may be claimed by utilities "who meet *all* of their program area and kWh, MW, and therm savings targets." [Emphasis added.] The SERA Team interprets this language to indicate that the utilities may receive the bonus award only if they meet each and every energy savings target approved by the Commission. In the case of SCE, this requirement appears to have been met, and the SERA Team has identified none of this award as being potentially at risk.

6.3.3 Miscellaneous Milestones

The SERA Team has found documentation supporting SCE's award claim of \$10.7 million for claims in the Miscellaneous category. This amount represents 90% of the \$11.8 million claimed in SCE's AEAP filings. Seventeen claims representing 40% of the claimed award dollars were evaluated, and the results were extrapolated to the remaining claims. Fourteen of the seventeen award claims were approved in full, and one was reduced as a result of insufficient support for

²³ Although the database numbers were checked to verify the claimed savings, a sample of applications and inspection reports was not verified for this program.

²⁴ Although application documentation supported the claims made by SCE and showed commitments were obtained for installation of equipment with savings equal to those claimed for PY 2001, it should be noted that the documentation demonstrated approximately 85% of those savings were actually realized after the installations were completed.

the claim. For two claims, SCE did not merit a claimed award and corrected this discrepancy on their own. These waived claims were not factored into the percentage that was used to extrapolate the remaining claims. Assessments of each of the seventeen reviewed claims are presented in Appendix A-2. The award claim that was adjusted by the SERA Team was the refrigerator / freezer recycling program.

Table 6.11 Miscellaneous Milestone Awards for SCE (PY 1999-2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Total	40%	\$10,662,758	\$11,816,000	90.2%

6.3.4 PY 2002

Total expenditures for these programs were \$63.9 million. Based on these achievements and the size of the program budgets, nine programs (accounting for \$40.1 million, or 63% of all PY02 expenditures) were selected for more detailed review. For these nine programs, the level of expenditure reimbursement subject to approval by the Commission is approximately \$7.6 million.

For Program Year 2002, the SERA Review Team examined 9 of 23 programs for PY 2002, composed primarily of the largest dollar budgets and, consequently, the largest dollar amounts subject to review. The review team analyzed documentation provided by SCE consisting of program tracking databases, verification mechanisms for energy savings, marketing materials, and a verification report.²⁵

Of the 9 examined programs, the team found that the goals (Section 5) were met or exceeded in 7 programs. In the Multifamily Energy Efficiency Rebate Program, the energy savings fell short of the goals put forth for them. One informational program, the Home Energy Efficiency Survey, fell short in hitting its target for online surveys. While the review team, having assessed the available documentation, feels that reasonable efforts were made by SCE in program implementation, we bring two programs to the attention of the commission for further scrutiny in determining the standard for reasonable efforts.

Multifamily EE Rebates: Expenditures for this energy savings program were \$1.57 million, and payments subject to review are \$235,000. SCE fell short of the energy savings goals in the MF-EE program. A goal of 8,850,000 kWh in energy savings was approved by the CPUC for this program. SCE achieved only 6,172,153 kWh, resulting in an energy savings of less than 70% of the kWh goal. Demand reduction also fell well short of the CPUC goal. However, these targets may have been artificially high as the baseline used to establish the targets was derived from the 2001 Residential Contractor Program and none of the utilities reviewed was able to hit the target for the MF-EE program. Further, it appears that reasonable efforts were made in marketing and outreach to shore up the program, including a large marketing campaign to hard-to-reach (HTR) targets. The review team is concerned, however, that only 78% of the allocated budget was spent and this area of the program may be of interest when determining whether reasonable efforts were made by SCE to further implement the energy savings goals.

²⁵ The verification report was prepared by Ridge & Associates, KVD Research Consulting, Heschong Mahone Group, and Vanward Consulting for PY2002

Home Energy Efficiency Survey: Expenditures for this energy savings program were \$990,000, and payments subject to review are \$248,000. The number of on-line surveys fell significantly (25%) short of the goal. Overall this shortfall was made up for by the increase in mail-in surveys. HTR targets were also reached.

6.4 SDG&E

The SERA team was able to examine and support claims associated with \$7.91 million for SDG&E's milestone achievements for PY 1999 through PY 2001. This represents 89.25% of the \$8.87 million claimed by SDG&E in its AEAP filings (Table 6.12); based on the results of the analysis, 10.75% of the incentives could be potentially at risk. These computations are based on an assessment of 30 individual milestones representing 47% of the value of all claims, including all of the Expenditure-based claims, 40% of the Energy Savings claims, and 37% of the Miscellaneous milestone claims. Within each of these milestone categories, the proportion of claimed dollars that was approved by the SERA Team was then applied to the remaining claims within that category to allow for determination of an assessment of the claim award value potentially at risk vs. verified for each category.

Table 6.12 Milestone Values Verified and Potentially Not At Risk for SDG&E (PY 1999-2001)

Milestone Type	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Expenditure-based	100%	\$1,124,300	\$1,124,300	100%
Energy Savings	40%	\$2,180,000	\$2,299,900	94.8%
Miscellaneous	37%	\$4,615,147	\$5,449,460	84.7%
Total	47%	\$7,919,447	\$8,873,660	89.2%

6.4.1 Expenditure-based Milestones

For Expenditure-based milestones claims, the SERA Team finds documentation sufficient to support approval of \$1.124 million, or 100% of the claim over Program Years 1999 through 2001(see Table 6.13).

Table 6.13 Expenditure-based Milestone Awards for SDG&E (PY 1999-2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
1999	100%	\$500,000	\$500,000	100%
2000	100%	\$489,000	\$489,000	100%
2001	100%	\$135,000	\$135,000	100%
Total	100%	\$1,124,000	\$1,124,000	100%

There are three awards for PY1999, one for each program area. The SERA Team has identified none of SDG&E's claim dollars to be potentially at risk. SDG&E appears to have spent (including commitments) at least 90% of the approved budget. Spending 70% warrants the lesser "Target 2" award, and expenditures between 70% and 90% of budget are rewarded through linear interpolation. Further, for each program that does not spend at least 50% of its budget, the award for the associated program area is reduced by 10%. Maximum award values are \$362,000 for residential spending, \$447,000 for non-residential spending, and \$143,000 for spending on new construction programs.

SDG&E claims the full award for the Residential and New Construction Program Areas (based on expenditure of 87% and 89% of budgeted funds respectively), and no award for Non-

residential (due to expenditures of less than 70% of budget). The SERA Team was able to review documentation sufficient to support these awards claims and has found no further claims potentially at risk.

For PY2000, the Expenditure-based award is comprised of six specific information programs, each of which has a spending threshold of 90% of the approved budget, above which the full award may be earned. SDG&E claims the full award for five programs and no award for one program, for a total of \$1.329 million. The SERA Team finds documentation supporting the claim that spending was at least 90% of the approved budget for each of the five programs for which SDG&E claims an award. The SERA Team has found no further award claims from this year to be at risk.

In PY2001, there is only a single expenditure-based milestone award, covering 15 programs and worth \$492,000. The full award, which is claimed by SDG&E, is earned for aggregate expenditures among these programs of 95% or more of the total approved budgets. Based on a review of expenditures, it was determined that total expenditures exceeded 95% of the aggregate program budgets, providing support for SDG&E's claim in full.

6.4.2 Energy Savings Milestones

The SERA Team has identified supporting documentation for an award of \$2.18 million to SDG&E for claims related to Energy Savings milestones, all of which were in PY2001. This award represents 94.75% of the claims referred to by SDG&E and the CPUC as "energy savings." However, the SERA Team has identified 5.25% of SDG&E's claims as being potentially at risk for exceeding the maximum award.²⁶

Table 6.14 Energy Savings Milestone Awards for SDG&E (PY 2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Energy Savings	40%	\$2,180,000	\$2,299,900	94.8%
Bonus Award	Not Applied For	Not Applied For	Not Applied For	Not Applied For
Total	40%	\$2,180,000	\$2,299,900	94.8%

Energy Savings Claims (not including "Bonus" award)

The assessment of Energy Savings claims applied the methodology described in Section 5.2 to verify the accuracy of the savings achievements claimed in SDG&E's PY2002 AEAP filing (for PY2001 programs). Specifically, as described in Section 4.3.2, the SERA Team assessed the three program groupings that represented the largest share of energy savings within each of the three program areas. These program groupings and their associated program areas were as follows:

- Upstream Programs/Financial Assistance (Residential),
- Standard Performance Contract (Non-residential), and
- Savings by Design (New Construction).

The SERA Team had identified a total of \$119,900 (5% of the award claim) as being potentially at risk for exceeding the maximum claim of \$2,299,900.

²⁶ It appears that SDG&E combined bonus claims into the earnings claims, a procedure for which no supporting documentation was found. As a result, the claims in excess of the maximum award were deemed potentially at risk.

Upstream Lighting: The program databases provided by SDG&E support the utility's claims for kW, kWh, and therm savings. The ex-ante assumptions used in calculating energy savings were also verified. No claims were deemed potentially at risk beyond the claims that exceeded the maximum allowable claim.²⁷

Standard Performance Contract: SDG&E's program database supports its energy savings claims for kW, kWh, and therms. Where the program database provided sufficient information, the energy savings figures were assessed to verify that appropriate assumptions were utilized. A sample of 30 projects was selected and the program applications and inspection reports for these projects were analyzed and verified.

Savings by Design: The program database provided by SDG&E for the Savings by Design program supports the utility's claims for kW, kWh and therm savings. As prescribed in the approved Workpapers, energy savings projections included in the database are based on the results of sophisticated building energy modeling runs, as opposed to the simple ex-ante assumptions and unit installations that apply to most other programs. Therefore, the SERA Team examined documentation for a sample of 30 projects to ensure that the energy savings values in the database accurately reflected the actual application savings and installed savings. Inspection reports and applications for the sample of projects confirmed that all energy savings in the database were substantiated.²⁸

Bonus Award

SDG&E did not file a claim of the bonus, and therefore the SERA Team does not further address the topic of a bonus award.

6.4.3 Miscellaneous Milestones

The SERA Team reviewed documentation sufficient to support an award to SDG&E of \$4.62 million for claims in the Miscellaneous category, which represents 85% of the \$5.45 million claimed in SDG&E's AEAP filings for PY 1999 through PY 2001 (Table 6.15). Twelve claims representing 37% of the claimed award dollars were evaluated, and the results were extrapolated to the remaining claims. Eleven of the twelve award claims were approved in full, and two were reduced as a result of either insufficient support for the claim or documentation indicating that the utility's achievement warranted a lesser award. Assessments of each of the twelve reviewed claims are presented in Appendix A-3. The award claim that was adjusted by the SERA Team was the refrigerator/freezer recycling program.

Table 6.15 Miscellaneous Milestone Awards for SDG&E (PY 1999-2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Total	37%	\$4,615,147	\$5,449,460	84.7%

²⁷ Although the database numbers were checked to verify the claimed savings, a sample of applications and inspection reports was not obtained and verified for this program.

²⁸ Although application documentation supported the claims made by SDG&E and showed commitments were obtained for installation of equipment with savings equal to those claimed for PY 2001, it should be noted that the original sample was not verifiable due to the fact that the 182 sets of applications, inspection reports and other verification material received only contained 80% of the accounts in the sample of 30 that was drawn.

6.4.4 PY 2002

Total expenditures for these programs were \$21.3 million. Based on these achievements and the size of the program budgets, nine programs (accounting for \$15.2 million, or 71% of all PY02 expenditures) were selected for more detailed review. For these nine programs, the level of expenditure reimbursement subject to approval by the Commission is approximately \$2.5 million.

The SERA Review Team examined 9 of the 20 PY 2002 programs that SDG&E implemented.

Of the 9 reviewed programs, the review team found that the goals (Section 5) were met or exceeded in 7 programs.

Documentation for SDG&E's 2002 claims was not as detailed as the review team would have liked. In particular, while program tracking and HTR databases were provided and were useful in verifying the programs in question, the underlying assumptions for energy savings could not be verified as SDG&E did not provide the requested documentation for examining these assumptions. However, in reviewing the provided documentation, the team was able to verify that program goals were met or not and identified several programs that may require a second look by the commission to determine the reimbursement rates and whether reasonable efforts were made.

Multifamily Energy Efficiency: Expenditures for this energy savings program were \$1.31 million, and payments subject to review are \$197,000. As with the other utilities, the MF-EE program fell well short of the goals assigned to it. While a significant portion of the allocated budget (84%) was spent on the MF-EE program, the results were disappointing. Of a targeted 2,440,484 kWh in energy savings, only 1,326,444 was achieved. Again, the MF-EE program was affected by various factors utility-wide. However, a net kW reduction of less than 25% of the goal merits further consideration of this program. The HTR quotas were reached despite the difficulties with the MF-EE program.

Single Family EE Rebate Program: Expenditures for this energy savings program were \$3.29 million, and payments subject to review are \$493,000. The Single Family program also fell short of set goals in both kW and kWh, but did achieve above-target reductions in therms as well as completely depleting the budget. SDG&E accounted for the missed goals on two counts: 1) consumers taking advantage of rebates for lower energy-savings devices and not buying high energy-savings devices, and 2) lowered incentives which prompted many retailers to not promote the items. SDG&E did respond with direct mail and marketing, but the program still fell well short of its goals. In the end, SDG&E met 90% of its HTR goal.

6.5 SCG

The SERA team was able to examine and verify claims associated with \$5.04 million for SCG's milestone achievements for PY 1999 through PY 2001. This represents 89% of the \$5.62 million claimed by SCG in its AEAP filings (Table 6.16). Based on the results of the analysis, 11% of the incentives could be potentially at risk. These computations are based on an assessment of 32 individual milestones representing 61% of the value of all claims, including all of the Expenditure-based claims, 55% of the Energy Savings claims, and 55% of the Miscellaneous milestone claims. Within each of these milestone categories, the proportion of claimed dollars for which the SERA Team reviewed documentation sufficient to support was then applied to the remaining claims within that category to allow for determination of an assessment of the claim award value potentially at risk vs. verified for each category.

Table 6.16 Milestone Values Verified and Potentially Not At Risk for SCG (PY 1999-2001)

Milestone Type	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Expenditure-based	100%	\$1,076, 600	\$1,076, 600	100%
Energy Savings	55%	\$1,090,000	\$1,090,000	100%
Miscellaneous	55%	\$2,868,600	\$3,486,389	82.3%
Total	61%	\$5,035, 200	\$5,652, 989	89.1%

Milestones for PY00 were identified and partially approved by the Commission in Decision 00-07-017, dated July 6, 2000. Milestones for PY01 are contained in SCG's application for Year 2001 Energy Efficiency Programs. The milestones were approved, with significant adjustments, in CPUC Decision 01-01-060, dated January 31, 2001.

6.5.1 Expenditure-based Milestones

For Expenditure-based milestones claims, the SERA Team reviewed documentation sufficient to support approval of \$1.08 million, or 100% of the amount claimed over Program Years 1999 through 2001.

Table 6.17 Expenditure-based Milestone Awards for SCG (PY 1999-2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
1999	100%	651,900	651,900	100%
2000	100%	424,700	424,700	100%
2001	Not Applied For	Not Applied For	Not Applied For	Not Applied For
Total	100%	\$1,076,600	\$1,076,600	100%

There are three awards for PY1999, one for each program area. The SERA Team had identified none of the award claimed by SCG as being potentially at risk. According to documentation reviewed by the SERA Team, SCG's spending (including commitments) was at least 90% of the approved budget. Spending 70% warrants the lesser "Target 2" award, and expenditures between 70% and 90% of budget are rewarded through linear interpolation. Further, for each program that does not spend at least 50% of its budget, the award for the associated program area is reduced by 10%. Maximum award values for SCG are \$256,000 for residential spending,

\$367,900 for non-residential spending, and \$125,000 for spending on new construction programs.

SCG claims a partial award for the Residential and Non-Residential Program Areas (based on expenditures of 72% and 85.1% of budgeted funds respectively), and a full award for New Construction (based on expenditures of 105.3% of budget). As the claims have been reduced from the maximum award potential because of expenditures below the 90% threshold, the SERA Team has not identified any further claim dollars to be potentially at risk.

For PY2000, the Expenditure-based award is comprised of six specific information programs, each of which has a spending threshold of 90% of the approved budget, above which the full award may be earned. SCG claims the full award for five programs and no award for one program, for a total of \$424,700. The SERA Team determined that spending was at least 90% of the approved budget for each of the five programs for which SCG claims an award. Therefore, the no funds have been identified as being potentially at risk from the PY2000 claim.

In PY2001, SDG did not claim any expenditure based awards.

6.5.2 Energy Savings Milestones

The SERA Team has not identified any potentially at risk claims related to Energy Savings milestones, all of which were in PY2001.

Table 6.18 Energy Savings Milestone Awards for SCG (PY 2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Energy Savings	55%	\$1,090,000	\$1,090,000	100%
Bonus Award	Not Applied For	Not Applied For	Not Applied For	Not Applied For
Total	55%	\$1,090,000	\$1,090,000	100%

Energy Savings Claims (not including “Bonus” award)

The assessment of Energy Savings claims applied the methodology described in Section 5.2 to verify the accuracy of the savings achievements claimed in SCG’s PY2002 AEAP filing (for PY2001 programs). Specifically, as described in Section 4.3.2, the SERA Team assessed the three program groupings that represented the largest share of energy savings within each of the three program areas.

The SERA Team has not identified any of the energy savings claimed by SCG to be potentially at risk. The proportion of energy savings that was supported by the SERA Team’s review (i.e., 100%) was then applied to the savings from the remaining program groupings to allow for determination of revised energy savings achievements within each program area. These revised figures were then used to adjust, as necessary, the claimed awards. Since none of the assessed savings were deemed potentially at risk, the SERA Team had identified documents in support of the award of \$1.09 million for all non-bonus Energy Savings milestone awards.

Industrial Energy Efficiency Incentive: The program databases provided by SCG support the utility's claims for therm savings. The ex-ante assumptions used in calculating energy savings were also verified. No claims were deemed potentially at risk.²⁹

Savings by Design: The program database provided by SCG for the Savings by Design program supports the utility's claims for kW and kWh and therm savings. As prescribed in the approved Workpapers, energy savings projections included in the database are based on the results of sophisticated building energy modeling runs, as opposed to the simple ex-ante assumptions and unit installations that apply to most other programs.³⁰

SCG did not file any claims for Energy Savings awards for PY 2001 residential programs.

Bonus Award

SCG did not file a claim for the bonus, and therefore the SERA Team does not further address the topic of a bonus award.

6.5.3 Miscellaneous Milestones

The SERA Team has identified \$617,789 as potentially at risk, and supports the awarding of \$2.87 million for claims in the Miscellaneous category to SCG. This represents 82% of the \$3.5 million claimed in SCG's AEAP filings for PY 1999 through PY 2001 (Table 6.19). Sixteen claims representing 55% of the claimed award dollars were evaluated, and the results were extrapolated to the remaining claims. Thirteen of the sixteen award claims were approved in full, and two were reduced as a result of either insufficient support for the claim or documentation indicating that the utility's achievement warranted a lesser award. Assessments of each of the sixteen reviewed claims are presented in Appendix A-4. The award claims deemed potentially at risk due to insufficient information were in the residential retrofit program and the statewide upstream appliance program.

Table 6.19 Miscellaneous Milestone Awards for SCG (PY 1999-2001)

	% of Claimed Dollars Assessed	Award Value Verified	Award Claim	Share of Claim Award Not at Risk
Total	55%	\$2,868,600	\$3,486,389	82.3%

6.5.4 PY 2002

Total expenditures for these programs were \$16.7 million. Based on the achievements and the size of the program budgets, seven programs (accounting for \$13.1 million, or 78% of all PY02 expenditures) were selected for more detailed review. For these seven programs, the level of expenditure reimbursement subject to approval by the Commission is approximately \$2.5 million.

²⁹ Although the database numbers were checked to verify the claimed savings, a sample of applications and inspection reports was not obtained and verified for this program.

³⁰ Although the database numbers were checked to verify the claimed savings, a sample of applications and inspection reports was not obtained and verified for this program.

The SERA Review Team examined 7 of the 13 PY 2002 programs that SCG implemented during PY 2002. As with the other utilities, these programs were composed primarily of the largest dollar budgets and, consequently, the largest dollar amounts subject to review. The review team analyzed documentation provided by SCG consisting of requested program tracking databases as well as marketing and training materials.

Of the 7 reviewed programs, the team found that the goals (Section 5) were met or exceeded in 4 programs.

Generally, documentation for SCG's 2002 claims was not as detailed as the review team would have liked. In particular, while program tracking and HTR databases were provided and were useful in verifying the programs in question, the underlying assumptions for energy savings could not be verified as SCG did not provide the requested documentation for examining these assumptions. However, in reviewing the provided documentation, the team was able to verify whether program goals were met or not and identified several programs that may require a second look by the commission to determine the reimbursement rates and whether reasonable efforts were made.

Savings By Design: Expenditures for this energy savings program were \$931,000, and payments subject to review are \$139,500. The 2002 Savings By Design (SBD) program fell well short of the goals laid out by the commission. In fact, based on SCG's own assumptions, only 30% of the goal was met for kWh, less than 10% for kW and therms, and the HTR target was not met. Serious concern is merited for re-examining whether or not reasonable efforts were made to shore up the program. Though the program was not rolled out until April of 2002 and there were several factors hampering performance; however, less than 75% of the program funds were spent trying to achieve the goals. Further, these budget numbers take into account the \$700,000 in funds shifted from the SBD program to the Express Efficiency program. The HTR target for this program was to sign up one program outside of the Los Angeles Basin during 2002. No HTR contracts were signed.

Multifamily Energy Efficiency: Expenditures for this energy savings program were \$880,000, and payments subject to review are \$132,000. As noted in Section 6.1, all utilities faced significant hurdles in implementation of the MF-EE program. For PY 2002, SCG met only 3% of the kWh goal, 10% of kW goal, and 49% of therm goal. However, the HTR targets for this program were significantly exceeded by SCG.

Express Efficiency: Expenditures for this energy savings program were \$3.21 million, and payments subject to review are \$482,000. The Express Efficiency program, while very successful in the amount of rebates processed, did fall short of the kW goal. A total of 17,000 kWh was targeted, and a reduction of only 4,921 kWh was achieved during PY 2002 (based on SCG's own underlying assumptions). However, a net therm reduction of 430,000 was reported. HTR targets were met.

7 RESULTS AND CONCLUSIONS

This review investigated the claims related to PY 1999-2001, and the efforts toward achievement of program goals for PY 2002. This included earnings related to expenditures, energy savings, and other miscellaneous milestones and accomplishments.

Across all the utilities and all the years, the SERA Team checked 30% of the utilities' milestone award claims worth 50% of the total claimed dollars. The first few months of the project were consumed with obtaining and reviewing governing documents, and constructing a comprehensive inventory of the milestones, accomplishments, and award claims. The next step was to select a sample of the milestones for verification. The SERA review team initially planned a two-part sampling strategy to provide us with a strong basis for extrapolating our findings to the claims at large:

- A census or large over-sampling of the largest / priority claims, including the key awards for each PY for each utility and each program area;
- Followed-up by a random sample of the remaining milestones.

Due to timing constraints, we were unable to carry out this preferred sampling plan, and for the most part, the largest claims constitute the bulk of the claims investigated. From a statistical point of view, the sample of claims investigated does not represent the population of claims; however, assuming that unverified claims were "met" provides an incentive for utilities to lag in supplying data. We note that the extrapolation of these results across all claims likely underestimates the dollars at risk because the largest claims will tend to be the best documented. However, extrapolation provides an overall estimate that is closer to the true value of claims at risk than would be employing the assumption that all uninvestigated claims are fully supported.³¹

7.1 *Claims and Dollars Investigated*

Table 7.1 shows the number of claims for each utility for each PY. The total value of all claims are also shown in Table 7.1. A total of 125 claims were selected for detailed investigation. This represents 30% of the total claims and \$32.5 million or 50% of the total dollars claimed (Table 7.2). The percentage of claims investigated varied across utilities from 22% (PG&E) to 49% (SCG), and the share of the dollars investigated varied from 44% (PG&E) to 61% (SCG). The share of the value of claims verified ranged from 36% for PY 2000 up to 64% for PY 2001.

Table 7.3 summarizes the results from the detailed assessment of Milestone values at risk. The analysis of PG&E and SCE documentation showed that dollars potentially at risk for PG&E and SCE are lower than those for SCG and SDG&E.

Overall, using the methodology described, we find that 94% of the \$65.5 million in earnings claims can be supported from our assessment of the documentation provided, leaving 6% or \$4.1 million potentially at risk.

³¹ Dollar values without extrapolation are also presented in Section 6 above, in the footnotes.

Table 7.1 Total Milestone Award Claims by Utility and Year – Number (#) and Dollar Value (\$, in millions)

	PG&E		SCE		SCG		SDG&E		Total	
	#	\$	#	\$	#	\$	#	\$	#	\$
1999	71	\$11.3	53	\$8.9	26	\$2.7	28	\$3.5	178	\$26.4
2000	55	\$9.8	57	\$5.9	26	\$1.7	41	\$2.6	179	\$20.0
2001	17	\$9.6	14	\$5.6	13	\$1.3	15	\$2.7	59	\$19.2
Total	143	\$30.6	124	\$20.4	65	\$5.8	84	\$8.9	416	\$65.6
Percent of all Claims	34%	47%	30%	31%	16%	9%	20%	14%	100%	100%

Table 7.2 Proportion of Claims (#) and Claim Value (\$, millions) Covered by Detailed Assessments

	PG&E		SCE		SCG		SDG&E		Total	
	#	\$	#	\$	#	\$	#	\$	#	\$
1999	14%	41%	23%	57%	50%	60%	32%	50%	25%	50%
2000	16%	25%	12%	46%	27%	64%	20%	40%	17%	36%
2001	76%	67%	86%	66%	92%	58%	87%	50%	85%	64%
Total	22%	44%	25%	52%	49%	61%	36%	47%	30%	50%

Table 7.3 Milestone Values Verified and Potentially Not At Risk by Utility

	% of Claimed Dollars Assessed	Award Value Verified (thousands)	Award Claim (thousands)	Share of Claim for Award Not at Risk
PG&E Total	44%	\$29,282	\$30,618	96%
Expenditure-based	100%	\$3,221	\$3,248	99%
Energy savings	68%	\$7,748	\$8,240	94%
Miscellaneous	24%	\$18,313	\$19,130	96%
SCE - Total	52%	\$19,233	\$20,386	94%
Expenditure-based	100%	\$3,818	\$3,818	100%
Energy savings	45%	\$4,752	\$4,752	100%
Miscellaneous	40%	\$10,663	\$11,816	90%
SCG - Total	61%	\$5,035	\$5,653	89%
Expenditure-based	100%	\$1,077	\$1,077	100%
Energy savings	55%	\$1,090	\$1,090	100%
Miscellaneous	55%	\$2,869	\$3,486	82%
SDG&E – Total	47%	\$7,919	\$8,874	89%
Expenditure-based	100%	\$1,124	\$1,124	100%
Energy savings	40%	\$2,180	\$2,300	95%
Miscellaneous	37%	\$4,615	\$5,449	85%
Overall Total	50%	\$61,469	\$65,531	94%

7.2 Observations about Verification Data

The goals for milestone accomplishments varied widely and included dollars spent, contractors recruited, dates programs became available, and a whole host of other indicators of progress. When the milestones were established, the guidelines for verification requirements were short, and in some cases, ambiguous. Recordkeeping to document the wide array of more than 400 claims is challenging, and each utility was responsible for establishing databases that could track these data.

Reviewing these databases was also challenging. Several suggestions related to recordkeeping in support of the milestones and accomplishments follow:

- Establishment of a unified system of tracking using widely accepted programs (Word, Excel, Access, etc.) would significantly simplify the task of assessing supporting documents. The utilities would all be required to track a core set of specific fields including kWh, kW, Therms, contact information, dollars, program, sector, check numbers, and dates. Utilities could track anything else, but if all utilities had electronic files available, verification and the process of pulling samples would have been accomplished much more easily.
- Commitments should be re-examined as a satisfactory way of meeting claims. Commitments represent sales but not delivery of a service, and commitment-to-action ratios may differ over the course of a year as utilities work to meet commitment goals.
- Verifying claims fairly shortly after programs occur would make it easier to locate and interpret databases, and would reduce the likelihood of staff turnover, need to obtain documents from remote storage and other factors that negatively affect the ability to verify claims in a timely manner.
- Greater specificity of the tracking requirements would help identify the threshold for “supported / not supported” in claims. Guidelines on the rules for follow-up of inspections, sampling requirements, and other items would provide greater clarity to the utilities in terms of procedures and recordkeeping.
- The PY 2002 claims were especially difficult to verify in that the requirements were to demonstrate “reasonable efforts” toward reaching goals. This is a difficult metric to work toward from both parties’ perspectives. Greater specificity in setting goals, or more detail related to the criteria necessary for meeting “reasonable efforts”, would provide better guidance both for program efforts and for verification purposes.
- Tardiness in providing records to evaluation contractors should not benefit the utility and could become a required component of programs in order to qualify for award claims.

APPENDIX A-1: PG&E Miscellaneous Milestones Assessment

Appendix A-1 PG&E Miscellaneous Milestones Assessment

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
1999	Res Lighting: Statewide	4	Select short list of bidders for lighting	\$241	\$241	Submitted document was reviewed and it was determined that PG&E has fully achieved this milestone by selecting a short list of bidders for the Statewide Lighting and Appliance programs prior to the May 2 deadline. The full award of \$241,000 should be approved.
1999	Small Nonres Retrofit/Small SPC Intervention Strategy	12	Have program open to accept applications, including statewide procedures manual; and statewide M&V procedures	\$641	\$641	Submitted documentation supports PG&E's claim for the full award of \$641,000. As required in the verification requirement for this milestone, PG&E provided a copy of the Small Business SPC Program Procedures Manual dated April 2, 1999, which included program application forms and M&V procedures. In order to ensure that the program was "open" to accept applications (as required of the milestone), the SERA Team requested a dated public announcement demonstrating that the program was accepting applications. PG&E provided an April 2, 1999 printout from its corporate web site that included a "key date" of April 2, 1999 upon which program applications may be submitted.
1999	Large NR Comprehensive Retrofit	53	Conduct pre-installation inspections of both 1998 and 1999 programs within specified number of working days after "complete" detailed application is received	\$481	\$481	<p>The SERA Team's efforts have found documentation and support for PG&E's claim for the full award of \$481,000. In PG&E's initial submission of documentation for this milestone the utility claimed that a "total of 14 projects conducted pre-installation inspections...with an average of six working days" from the time that complete detailed applications were received from project sponsors. (The milestone calls for an average turnaround time of less than 15 days for the target award and less than 30 days for the lesser award.)</p> <p>However, from documentation received for Milestones 54 and 55, the SERA Team identified additional projects that were inexplicably omitted from the printed database provided by PG&E. PG&E subsequently provided a more complete database (still with missing data, however) as well as the DPA Submittal Review Forms supporting the data for a sample of 16 projects requested by the SERA Team. Based on the information contained in these forms, the average turnaround time was nearly 29 days. However, this result was driven by an outlier of 225 days, without which the average drops to 8.5 days, far exceeding the target performance level. Given the extreme nature of the outlier that dramatically skewed the result, the SERA Team concludes that PG&E's performance warrants the full award as claimed.</p>
1999	Large NR Comprehensive Retrofit	54	Conduct post-installation inspections of both 1998 and 1999 programs within specified number of working days after "complete" installation report is received from project sponsor	\$481	\$481	<p>The SERA Team has found documentation in support of PG&E's claim for the full award of \$481,000. In PG&E's initial submission of documentation for this milestone the utility claimed that a "total of 20 projects conducted post-installation inspections...with an average of six working days" from the time that complete installation reports were received from project sponsors. (The milestone calls for an average turnaround time of less than 15 days for the target award and less than 30 days for the lesser award.) Following discussion with the SERA Team, PG&E subsequently provided a more complete database (still with missing data, however) as well as the PIR Submittal Review Forms supporting the data for a sample of 16 projects requested by the SERA Team. Based on the information contained in these forms, the average turnaround time was approximately day. This is significantly higher than PG&E's original claim, but still well within the target performance range. Therefore, the SERA Team concludes that PG&E's performance warrants the full award as claimed.</p>

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
1999	Large SPC Intervention Strategy	55	Provide payment within specified number of working days after "complete" invoice is received for approved 1998 and 1999 projects	\$481	\$321	The SERA Team finds support and documentation for a reduced award of \$320,667, which corresponds to the "Target 2" timing goal. The full award of \$481,000 applies if PG&E provides payments, on average, within 15 working days of receiving a complete invoice for approved 1998 and 1999 projects. The original data that PG&E provided claimed an average turnaround time of 12.1 days; however, the data itself averaged to more than 15 days. After several discussions with PG&E staff, the SERA Team received data for additional projects not included in the original submission. The mean turnaround time based on the full data set was 28.2 days; even excluding the two outliers that were greater than 200 days, the mean is 17.4 days. Given these results, and the fact that a sample of invoices and checks provided by PG&E confirm the accuracy of the data, the Target 2 award for payment within 16-30 days is appropriate.
1999	Large Nonres Comprehensive Retrofit/Large SPC Intervention Strategy	11	Have program open to accept applications, including statewide precedures manual; system consistent across 3 utilities to track customer applications; and statewide contract	\$641	\$641	Submitted documentation supports PG&E's claim for the full award of \$641,000. As required in the verification requirement for this milestone, PG&E provided a copy of the Large Nonresidential SPC Program Procedures Manual dated March 23, 1999, which included program application forms and the statewide contract. In order to ensure that the program was "open" to accept applications (as required of the milestone), the SERA Team requested a dated public announcement demonstrating that the program was accepting applications. PG&E provided a March 24, 1999 printout from its corporate web site that included at least three references to the fact that applications could be submitted beginning on March 23, 1999.
1999	Com NC	21	Develop statewide program and have program open to accept applications in PG&E service territory	\$179	\$179	The program databases provided by PG&E supports the utility's claims for kW, kWh, and therm savings. In addition, the SERA Team examined a sample of 20 lighting applications (compact fluorescent bulbs) and 30 HVAC applications (gas furnaces), as well as detailed, customer-specific program records for participants in the appliances element of the program (clothes washer with gas water heating) to ensure that the number and type of units in the databases were accurate. The ex-ante assumptions used in calculating energy savings were also verified. Although PG&E did not provide inspection reports, it claims to have conducted either site inspections or telephone verification installations.
2000	Residential Appliances	RAPP5	Increase retailer sales of Energy Star qualifying clothes washers to 16% of retailer total clothes washer sales in PG&E's service territory (for major retailers for which data are available - Sears, Montgomery Ward, and Circuit City).	\$350	\$350	Submitted documents were reviewed and it was determined that PG&E has fully achieved this milestone by requesting and obtaining the relevant retail sales data from the Department of Energy. Copies of the email transaction with DOE staff were provided by PG&E.
2000	Small Comprehensive Retrofit	NR11	Achieve net first year savings of 36GWh for all energy savings associated with Express Efficiency and Small Business SPC (including savings from projects budgeted under Commercial Remodeling)	\$350	\$350	A review of the program database and supporting documentation indicates that PG&E exceeded the target achievement goal of 36 GWh in energy savings and should be awarded its full claim of \$350,000. Assessment of this milestone was conducted according to the methodology described for assessing energy savings milestones (see Section 5.2). The program database indicated energy savings of more than three times greater than the goal, and these savings were based on realistic assumptions. Further, a sample of 31 applications confirmed the accuracy of the database.

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
2000	Residential New Construction	NC1	Conduct a survey that a) identifies the number of customers who contacted the 800# or website, received a home buyers kit, and actually intend to buy a home, and b) demonstrates that 12% of the customers identified in the sample defined in "a)" intend to purchase or commit to purchase a Comfort Home	\$382	\$382	Additional calculations were performed by the SERA SERA Team that built on PG&E's milestone research report. This secondary analysis reinforces the report's conclusion that PG&E did, in fact, meet the milestone. See below for detailed explanation of the analysis.
2001	NR Programs	PG&ENR6	1) increase to 400 consultations 2) TLL loans with specific actions being taken by at least 20% of consultations 3) Present 80 targeted education classes, collect project info from attendees, and survey to show specific actions being taken by at least 10% 4) use design software on 50 projects with new software analysis service and report kW/kWh/therms savings 5) report kW/kWh/therms savings and square footage of buildings addressed for all customers using TLL service	\$131	\$98	One of the five parts of this milestone was not claimed by PG&E. Two of the five parts were deemed partially inadequate, and therefore we note that there are incentives potentially at risk; specifically at risk s 50% of the award, resulting in a total portion of the award with support of \$98,400. See below for detailed explanation of the analysis.
2001	Residential Heating and Cooling	PG&ER3	Obtain ten HVAC distributors to actively participate in the res HVAC distributor rebate program	\$164	\$164	PG&E has provided both summary and detailed program forms verifying both initial participation and subsequent activity from 10 HVAC distributors. The SERA SERA Team reviewed this documentation and verified that each of the participating distributors had processed at least one filed and been approved for at least one rebate application covering multiple project sites. This documentation is sufficient to justify the full milestone award of \$164,000.

Supplement to PG&E's Assessment of Selected Miscellaneous Milestones

Program Name: Res NC

PG&E conducted a study that verified that the utility met its milestone goal that 12% of customers intend to purchase a Comfort Home (among customers contacting the program and receiving home buyers kits, and who intend to buy a home). While the study methodology is sound, there are a number of necessary assumptions that can affect the result. Therefore, additional analysis was conducted by the SERA Team that reinforces the study's conclusion that PG&E did, in fact, meet the milestone.

According to the PG&E Comfort Home Year 2000 Milestone Research report by Opinion Dynamics, 54% of the 244 respondents who purchased or intend to purchase a brand new or newly constructed home intend to purchase a Comfort Home. More conservatively, this is 35% of the 376 respondents who purchased or intend to purchase a home of any kind (including an existing home). Either way, states the report, this is much greater than the 12% goal.

However, there is a big difference in those who intend to purchase homes versus those who actually purchased homes. Whereas 60% (114 out of 190) of those who intend to purchase a home claim that it will be a Comfort Home, only 31% (17 out of 54) of actual home purchasers bought Comfort Homes. It appears that intentions do not always pan out; and actual home purchases are likely a better indicator of the behavior of those who intend to purchase but have not yet bought homes.

Program Name: NR Programs

1. Goal #1 was for 400 "consultations." The submitted documentation shows records for 528 "loans and consultations" in 2001, which raises the possibility that many of the customers who borrowed equipment did not receive a "consultation." However, the research team interviewed Christine Condon, coordinator of the Tool Lending Library, on May 10, 2004 and confirmed that virtually all loans are accompanied by at least a brief consultation to assess the needs and identify the appropriate tools, and often to explain proper usage. Therefore, the records are sufficient to validate the milestone claim of \$32,800 for this component of the milestone.
2. Goal #2 was that 20% of loans result in specific actions being taken. This was determined through customer responses to an email survey sent out by the Pacific Energy Center. Although 73% of those responding reported measurable energy savings (and therefore, PG&E reasonably assumes, they took specific actions), there are a number of drawbacks to the methodology and survey that create significant uncertainty regarding achievement of the goal. These drawbacks include:
 - a) survey response rate was only 13% and there was no attempt to determine whether respondents represented the entire population, or whether those taking actions were more likely to respond;
 - b) determination of actions taken is self-reported and no follow-up verification was conducted, such as site visits of a small sample;
 - c) the survey does not include the question at issue for this component of the milestone, namely, "What actions have you taken in relation to your borrowing of tools?" As a result, it is not clear whether energy and demand savings estimates are for actions already taken or for prospective future actions (about which nothing is known about the likelihood of these actions being taken).

Given the many significant uncertainties in the demonstration of milestone achievement, we find that award dollars are potentially at risk; specifically, award dollars equal to 50% of the maximum, or \$16,400, are at risk. for this component of the milestone.

3. Eighty-eight classes were on the schedule. The "Program Year 2001 PEC Attendee Survey" provides documentation that nearly half of all attendees responded to the web-based survey and that 68% "incorporated specific energy-saving actions" as a result of the PEC. This supports the claim that the goal of 10% was exceeded, and the full \$32,800 award is supported for this component of the milestone.
4. PG&E did not claim an award for this milestone component.
5. PG&E's reporting of demand, energy, and therm savings is unreliable, as it is based on the flawed customer survey described in Goal #2 above. In addition to the issues previously discussed two additional items raise questions about the reliability of the reported savings figures:
 - a) there is the possibility of self-report bias resulting in unrealistically optimistic estimates of energy savings, particularly since respondents were aware that funding for the program would be based, at least in part, on reported savings (See the email exchange between Christine Condon, TLL Coordinator, and PID #98634)
 - b) there are reporting errors that invalidate some savings estimates and raise doubts about the accuracy of the remainder. For example, PID # 96884 reports 12 kW of demand reductions and 187,000 kWh of annual energy savings. However, even in the extreme case where the maximum demand reduction was realized 24 hours per day for 365 days per year, this would result in energy savings of only about 105,000 kWh per year (12 kW times 8760 hours per year). This maximum savings value is barely half of the reported savings. There are at least four examples of this specific error, and there is no indication that any reasonableness checks or onsite verification was conducted.

Given the many significant uncertainties in the demonstration of reliable energy savings estimates (which were to be used to establish a baselines for PY2002), it is noted that, analogous to the other components of this milestone, a lesser award equal to 50% of the maximum, or \$16,400, can be supported; the remainder is potentially at risk..

APPENDIX A-2: SCE Miscellaneous Milestones Assessment

APPENDIX A-2: SCE Miscellaneous Milestones Assessment

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment:Verification of Claim
1999	Res Lighting: Statewide	SPC-A-2	Conduct pre-installation inspections of both 1998 and 1999 pgms within specified no.of working days after "complete" detailed application is received.	450.00	450.0	The days between DPA receipt and pre-inspection according as reported in the "Days" column in the file SPC-A-2, A-3. Attach 1. Pdf, and the average number of days was different from what SCE reported as the average in the file. Using all of the values from the "Days" field, the review team calculated an average processing time of 9.64, while SCE calculated 8.77. A follow-up request produced copies of the signed and dated DPAs and inspection reports. Though the initial calculation was errant, 9.64 days is clearly within the 15 days stated in the milestone requirement, and entitles SCE to the full award for superior achievement.
1999	Small Nonres Comprehensive Retrofit/Small SPC Intervention Strategy	SPC-A-3	Conduct post-install inspections w/in specified # of working days after "complete" installation report is received from sponsor.	450.00	450.0	On follow-up request to SCE, company provided a complete tracking database with explanations of why some projects were not seen through to completion for PY 1999. In addition, a sampling (even-numbered projects were requested by the review team) of signed and dated applications and inspections were included for review. The average working day turnaround for this milestone was 7 days. Based on the submitted documentation, SCE has acheived the superior level of achievement for this milestone.
1999	Large NR Comprehensive Retrofit	SPC-A-4	Provide payment w/in specified # of working days after "complete" invoice is received for approved 1998 and 1999 projects.	450.00	450.0	Based on the documentation provided by SCE, the review team calculated processing time from the days reported in the file "SPC A-4 Attachment1.pdf) to be 5.26, while SCE calculated it to be 5. This is well within the required 15 days for acheivement set out in "PY99 Milestone Report Appendix A.xls" and qualifies SCE for the superior level of acheivement for this milestone.
1999	Large NR Comprehensive Retrofit	SPC-B-1	Have program open to accept apps, including statewide procedures manual; system consistent among 3 utilities to track customer app; and statewide contract.	560.00	560.0	The dates on the submitted verification documents are well before the April 2, deadline for superior achievement. SCE provided a copy of the Statewide SPC Procedures Manual, an email shared between the utilities declaring the Large SPC program open as of March 23, 1999; copies of two BPAs SCE received for the 1999 SPC program on March 2 and March 3, 1999 on the 1999 BPA forms, and printouts from the SPC tracking system of 16 BPAs received between March 2, 1999 and the required program opening date of March 23, 1999 (the dates on these are difficult to read due to highlighting). From the submitted documents, SCE met the threshold for the superior achievement level for this milestone.
1999	Large SPC Intervention Strategy	NRNC-M-2	Two-part milestone 1) Influence 30% of targeted program projects to take lighting energy efficiency actions exceeding new Title 24 by 10% and 2)Conduct baseline analysis to determine target market size of design professionals that could benefit from using Energy Design Resources Design Tools.	238.00	156.0	1)SCE provided a fulll database upon follow-up that showed the percentage of lighting 2)The RLW report appears to be a thorough analysis of the F.W. Dodge Database, carefully estimating the size of the A&E market in the SCE service territory. The report is dated July 28, 1999, and thus apparently meets the cutoff for the maximum incentive (we cannot verify the actual date the report was delivered). The report also characterizes the firms/market by size, ownership, project type, number of permits, and other variables.

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment:Verification of Claim
1999	Large Nonres Comprehensive Retrofit/Large SPC Intervention Strategy	RU-M-11	Conduct baseline analysis of # of window frame systems shipped in SCE territory in 1998 and 20% increase in shipments or market share of qualifying window frame systems from 1998 levels.	210.00	210.0	1)The Pacific Consulting Services report provides an estimate of the number of residential windows shipped in SCE service territory in 1998. The report is dated July 28, 1999, and thus apparently meets the cutoff for the maximum incentive (we cannot verify the actual date the report was delivered). The report used alternative methods of calculating the baseline (a more rigorous analysis) that appeared to provide consistent results. The report could have potentially refined the estimate of number of windows per home based on the distribution of single family vs. multifamily new construction. 2)The baseline for Energy Star windows shipped was developed based upon an estimate of the number of units shipped by the three manufacturers participating in SCE's PY1998 Energy Star Windows program - Windowmaster Products, Andersen Windows, and Summit Windows. The baseline had to be extrapolated from the available data as exact unit counts from window manufacturers are difficult to discern - these numbers are regarded a
1999	Com NC	RU-M-3	Complete baseline analysis to determine # participating EnergyStar dealers in service territory. Achieve 20% increase in shipments or mkt share of qualifying light fixtures from 1998 levels	210.00	210.0	1)The Pacific Consulting Services memo provides an estimate of the number Energy Star lighting dealers. The report provides detail by # of company, # of storefronts, and # of stores by zip code, and thus appears to be based on reliable data. Background methodology (e.g., the number of participating manufacturers, how many responded, how data were collected, etc.) was not provided. The report is dated July 28, 1999, and thus apparently meets the cutoff for the maximum incentive (we cannot verify the actual date the report was delivered). 2)The manufacturers shipped report provides no documentation for methodology or verification. In addition, the first page of the 1998 data, which should show the number of responding manufacturers, is not provided, plus there are some odd data patterns (e.g., no ES shipments until Aug 1998). The milestone, therefore, should not be considered met until additional explanation and documentation is provided. SCE stated that the 1998 program data begins in late 1998 since the pr
1999	Residential Appliances	RU-M-6	Baseline analysis to determine total mkt size (#stores selling refr) and # stores promoting Estar in SCE's territory. Increase # stores promoting Estar refs by 20% beyond 1998 levels.	210.00	210.0	1)The Pacific Consulting Services memo provides provides an estimate of the number stores selling refrigerators and the number promoting ES refrigerators. The report breaks down the stores by source: SIC (purchased from InfoUSA), collected lists of chain stores, and SCE additional recruitment lists. It is surprising that so many stores (547, 43%) were not on the InfoUSA list. SCE did store visits to nonparticipating stores and found that 16% were promoting ES refrigerators, it is not clear when these stores were not in Program. Also, they only visited 50 stores (5%) of the eligible nonpart sample, and apparently did not stratify. So the extrapolation of the 16% is suspect. The report is dated July 30, 1999, and thus apparently meets the cutoff for the maximum incentive (we cannot verify the actual date the report was delivered). 2)The Heschong Mahone group actually uses a conservative methodololgy and uses an admittedly high number of stores promoting ES refrigerators for 1998, the base year (they did not h

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
1999	Small Comprehensive Retrofit	RNC-A-8	Sign-up/Commit 4000 homes to meet ComfortWise requirements.	190.00	190.0	SCE provided copies of all signed and dated contracts with ComfortWise Builders. Demonstrates superior achievement award for this milestone.
2000	Residential New Construction	SCENC-1	8%/6% of new single family homes permitted in SCE's service territory in 2000 will have plans exceeding T24 by at least 10%.	191.00	191.0	Methodology for calculation of number of homes built in SCE territory appears valid. Spreadsheet confirming savings estimates for ComfortWise and HVAC training (tight ducts) is also valid. Based on the submitted documents, SCE has achieved this milestone at the superior level.
2000	NR Programs	SCENR-10	SCE-- Conduct pre- and post-installation inspections of every (i.e. PY 98, 99, 00) Large NRSPC projects within 13 working days (average) of receipt of "complete" Detailed Project Application and Project Installation Report	414.00	414.0	The review team agreed that it would be sufficient to receive a tracking database that showed the process flow from start to finish. SCE provided this database with additional fields not included on the original response. SCE also sent copies of DPAs and PIRs on adobe format. Based on this documentation, the review team has concluded that SCE has achieved the superior level of achievement for this milestone.
2000	Residential Heating and Cooling	SCENR-9	SCE-- increase the number of EESPs participating in the program by 15% over combined 98 and 99 year-end total. The combined annual savings of new EESP projects must be greater than or equal to: [# new EESPs x 150000 kwh/yr]. (baseline: total number of 3rd party EESPs with an approved BPA in the 98 and 99 pgm. As of 9/23/99, total is 42, estimate year end total 44)	445.00	312.0	1) Calculations for the number of EESPs in PY98/PY99 combined appears to be valid, although one entry from fax was difficult to read (Onelta Sycom Energy Corp?), but assuming this is part of Onsite Sycom (which merged in 1998). Calculation for PY2000 EESPs appears to be valid. The average new EESP project appears to be far above the 150,000 kWh/project minimum requirement. 2) The HMG memo appears to have an error. The memo states that the PY98/99 baseline should be 36, not 35, yet in the percent increase calculation shows 35 (plus uses an incorrect calculation of 40/35=11.4%, while it is really 14.3%). The calculation should be 40/36, or 11.1%. 3) Although an 11.1% increase does not qualify for the superior achievement milestone, it still qualifies for the lower reward (10% increase) for \$312,000.
2000		SCER-9	50 million kWh in energy savings through refrigerator and freezer recycling efforts. (baseline: 1999 levels (Est.) = 59 million kWh, w/\$8.9 million budget.	245.00	0	Despite a promise in a follow-up request to do so, SCE never provided the documentation of studies or basis of assumption for the energy savings (Gross Capacity Reductions per Unit or Gross Energy Savings Per Unit) by appliance type for PY2000. Without this information the review team is unable to calculate the energy savings realized. This milestone is not complete until the underlying calculations can be verified.
2001		SCENR-1	Increase by 5 the # of EESPs participating in the program compared to 2000. Combined kWh savings of new EESP projects must be greater than = : [# of new EESPs x 25000 kWh/yr]	150.00	0	The number of participating ESCOs drops from 37 in PY2000 to 22 in PY2001 (41%). In addition, the HMG memo reports that some of the 2001 "new" ESCOs had previously participated in PY1999, just not in PY2000. SCE has acknowledged that the intent of the milestone was to increase the number of ESCOs over the 2000 level by at least five participants (not simply to add five new participants), and plans to file an Errata to its 2002 AEAP Application, restating its testimony on this milestone, and foregoing any incentive claim in relation thereto.

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
2001		SCER-1	Increase by 20 the # of single family RCP contractors who are actively participating in the pgm over 2000 participation level. (actively participating defined as installing 1 or more measures/services for at least 5 customers)	100.00	0	SCE did not achieve the program goal (per Data Request Set SERA-SCE-02) and has stated that the company will forego its claim to the incentive. SCE will file an errata (per Data Request Set SERA-SCE-02).
2001		SCER-2	Increase by 1 the # of eligible retailers (companies) participating in co-op pgm over the 2000 participation level.	100.00	100.0	In calculating the new, active residential contractors, SCE expanded its calculation of the baseline of previously participating contractors to those who had participated in the 1999 RCP program. The 2000 baseline participation level was thus all contractors who had participated in the program through 2000. SCE provided the list of retailers participating in the co-op program in 2000 as well as the list of retailers participating in the co-op program in 2001, including the list of unique, new participating retailers. In addition, SCE submitted copies of the 27 signed co-op agreements from 2001, pursuant to the verification plan filed for this milestone. Based on the submitted documentation, SCE has achieved this milestone at the level of superior achievement.
2001		SCER-3	Of the 6 major appliance manufacturers that produce Estar qualified products, sign up 2 to the 2001 co-op pgm	100.00	100.0	SCE provided copies of agreements with Electrolux, Whirlpool, Maytag, and General Electric. All contracts dated in October, 2001. The provided documentation demonstrates that SCE achieved the superior achievement for this milestone.

Supplement to SCE's Assessment of Selected Miscellaneous Milestones

Program Name: Large Nonresidential Comprehensive Retrofit

Calculations for the number of EESPs in PY 1998 / PY 1999 / PY 2000 combined are valid. Calculation for PY 2000 EESPs appears to be valid. The average new EESP project appears to be far above the 150,000 kWh/project minimum requirement.

The HMG memo appears to have an error. The memo states that the PY 1998/1999 baseline should be 36, not 35, yet in the percent increase calculation shows 35 (thus uses an incorrect calculation of $40/35=11.4\%$, while it is really 14.3%). The calculation should be $40/36$, or 11.1% .

Although an 11.1% increase does not qualify for the superior award, it does still qualify for the acceptable reward (10% increase) of \$312,000. The SERA Team has adjusted the award accordingly.

Program Name: Residential Contractor

SCE provided lists of the RCP contractors who actively participated in the program in 1999, 2000, and 2001 as well as the names of the 2000 and 2001 participating contractors in order to determine the number of total different participating contractors during 2001. In SCE's 2002 AEAP Application, SCE reported that 27 new, active residential (RCP) contractors participated in the 2001 program, meeting the goal to "Increase by 20 the number of single-family RCP contractors who are actively participating in the program over the 2000 participation level." SCE's interpretation at the time was that the milestone was focused on increasing the pool of RCP contractors from the previous year by adding at least 20 new actively participating RCP contractors. This is consistent with the goal of the California Board for Energy Efficiency at the time to expand contractor participation for a more vibrant energy efficiency provider market and the fact that the RCP contractor budget had decreased from the previous year.

However, in reviewing the documentation in preparation for this response, SCE now recognizes that the intent of the milestone as understood by SCE (i.e., requiring the addition of at least 20 new participating RCP contractors in 2001) is not reflected on the face of the milestone. Rather than focus on the number of new RCP contractors, the milestone looks to an increase in the total number of contractors year-over-year. Although SCE added 27 new, actively participating RCP contractors in 2001, with 117 RCP contractors actively participating in the 2001 program, the total number did not increase over the 2000 level of 129. Accordingly, SCE plans to file an Errata to its 2002 AEAP Application, restating its testimony on this milestone, and foregoing any incentive claim in relation thereto.

APPENDIX A-3: SDG&E Miscellaneous Milestones Assessment

APPENDIX A-3: SDG&E Miscellaneous Milestones Assessment

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
1999	Large Nonresidential Comprehensive Retrofit: Large SPC	-	Have program open to take applications: A revised procedures manual incorporating program changes adopted by the Commission; a system consistent across the utilities to track customer applications and monitor corporate parent information; a statewide contract for project sponsors to be used by each of the utilities.	224.00	224.00	SDGE provided an e-mail from Joy Yamagata to the "eGroup list py99" announcing the official opening of SDG&E's 1999 Large Nonres SPC program and acceptance of applications on March 23, 1999. A copy of California's 1999 Large Non-Res SPC Program Procedures dated March 23, 1999, including the LNSPC Agreement in Appendix E. The e-mail verifies that the program was open to the public to accept applications on the March 23, 1999; the Procedures Manual is dated March 23, 1999, however this date is not date stamped. The date on the manual is on the title page. From the e-mail and date on the Procedures Manual it appears that the program was open 33 calendar days, or 23 working days after the approval of resolution E-3289, thus completing the requirements to justify a superior (level 1) award.
1999	Large Nonresidential Comprehensive Retrofit: Small/Medium SPC	-	Have program open to take applications: A procedures manual incorporating the Commission-adopted program guidelines and design elements (such as pricing and participation limits); a streamlined set of measurement and verification ("M&V") protocols appropriate for this size of customer.	224.00	224.00	The title page "California's 1999 Small Business SPC Program Procedures Manual," is dated April 2, 1999. The manual is included in its entirety including appendices. An e-mail from "eGroups," dated April 4, 1999 announces that the Small Business SPC program was open April 2, 1999. The announcement dated April 2 falls within 43 days, and April 4 is 45 days from the February 18 resolution. SDGE has demonstrated achievement of the superior level resulting in a maximum award for this milestone.
1999	Residential Retrofit & Renovation: Residential Contractor Program	-	1) Complete draft statewide program design based on input from public workshop 2) Have program available for participation	188.00	188.00	An e-mail from Allen Newell to Laurie Gomez dated March 17, 2000 contains a record of the transfer of the webfiles for the Residential Contractor Program on April 30, 1999. The e-mail also shows a review of the logs of people accessing the website during the week 5/02/1999 to 5/09/99 as 210. There is an attendee list of 59 (company, last name, first name, RSVP) entries for the April 28, 1999 Residential Contractor Program at the Hyatt Regency La Jolla (prepared by Concepts Worldwide), as well as a final attendee report showing 59 RSVP, 1 cancellation, 24 NO-shows, 5 On-Sites, with a Total Attendance of 39. Follow-up request included requested letter to the Energy Division of the CPUC dated March 15, 1999 with program design and presentation materials demonstrating superior achievement for this milestone.
1999	Residential New Construction	-	1) Have window/duct training available. 2) Develop a statewide Builder Guide Book. 3) Have Comfortwise program available to builders.	107.00	107.00	SDG&E provided copies of the workshop notice for May 11, 1999 and list of attendees, a copy of the training manual, and a copy of the workshop notice for the May 7, 1999 ComfortWise Program. Based on the documentation, SDG&E qualifies for the superior level of achievement for this milestone.
2000	-	XC1	Issue new Targeted Third Party Initiatives request for proposals within 60 days after Commission Decision.	61.77	61.77	The documentation submitted by SDG&E documenting the date of the RFPs is an e-mail from Anne Premo (CPUC) to the CBEE egroup dated 2/14/1999. An e-mail from Athena Besa to CBEE groups announcing the RFPs on February 11, 2000 included the 3 RFPs, as well as a timeline. The e-mail announcement from Athena Besa is just less than 60 days after D.99-12-053 (issued on Dec. 16, 1999). The e-mail states that the RFPs were attached. SDG&E stated that they included the copies of the winning bids: A proposal for the titled "The Energy Shaver," for the NR Retrofit Targeted TPI signed and dated March 16, 2000 by Redstone Engineering Consulting; A proposal for the NC TPI titled "Training HVAC Engineers on Commissioning of Commercial Buildings," was submitted by Ayres, Ezer and Varadi, Inc, with a date of March 2000 on the title page. The proposals were included in their entirety. In SDGE's supplemental response to "request 7" received 5-26,04 by the SERA team, SDGE gives page references for the market assessment, tr

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
2000	-	XC2	Work with other utilities/ stakeholders to establish and participate in Emerging Technologies Coordinating Council (ETCC) within a specified number of days after Commission Decision.	61.77	61.77	The following documents support the fact that the ETCC was founded on 2/2/2000, 47 days after the Dec. 16 decision. This is within the 60 requirement for the higher level of achievement. E-mail dated Jan 19, 2001 from Theodore Turner to Linda Jo Linderman listing the dates the ETCC met. ETCC meeting sign-in sheet for 2/2/2000; an e-mail dated 2/3/2000 from Theodore Turner to Athena Besa including a list of attendees and a summary of the 2/2/2000 meeting. A copy of the ETCC Meeting Minutes from 2/3/2000; an e-mail Theodore Turner to Judith Kelley with the 2/3/2000 meeting minutes attached. A second copy of the 2/3/2000 meeting minutes with handwritten edits. An ETCC meeting agenda for 3/15/2000. A draft of the ETCC Meeting #2 3/15/2000 agenda. An e-mail from Theodore Turner to Judith Kelley 4/06/2000 where 3 technologies were submitted to the database (compressed air, low flow fume hood, EE printing press), and attached fields for the database. An e-mail from Theodore Turner to Judith Kelley announcing
1999	Commercial/Industrial & Agricultural New Construction	-	1) Conduct baseline analysis to describe target market, quantify number of key actors, and design measurement plan 2) Demonstrate that a number of participants in Title 24 training will increase the efficiency of their designs by 10% over new standards	120.00	120.00	1) The RLW report appears to be a thorough analysis of the F.W. Dodge Database, profiling construction activity in the SDG&E service territory. The report is dated July 28, 1999, and thus apparently meets the cutoff for the maximum incentive (we cannot verify the actual date the report was delivered). 2) The memo claims that the threshold and average methodologies both meet the 40% minimum to qualify for the milestone. The average method, however, does not appear relevant, as the goal was to demonstrate the percent of participants that planned to increase the efficiency of their designs as a result of the training (and using the % likelihood can skew these results). The threshold method chooses 50% likelihood as the cutoff (and 67% qualify), although this could also mean the participant is 50% likely not to increase efficiency (i.e., 50/50). If next category is used -- 60% -- the percent meeting the threshold falls to about 39%, and just short of the milestone. Because the true number would be those with more
2000	Residential Heating & Cooling Systems	R5	Increase the average number of contractors who use manuals J & S by specified percentage over the 1999 baseline or are knowledgeable and aware of diagnostic and maintenance techniques relating to heating & cooling systems by a specified percentage.	154.43	154.43	SDG&E provided a raw data file called "Raw Data from Surveys", a summary data file called "Summary Data for Contractors" and a letter written from the Proctor Engineering Group to Athena Besa that describes the achievement of the milestone. Based on the provided documentation, the only document providing documentation of an increase in awareness of diagnostic and maintenance techniques relating to heating & cooling systems is the letter from the Proctor Engineering Group. Despite a general lack of enthusiasm or participation, the review team has established that the study was completed. SDG&E qualifies for the maximum award for this milestone.
2000	Residential Lighting	R7	Increase the number of indoor/outdoor fixture (including torchieres) manufacturers offering Energy Star-rated or equivalent products in SD county over the 1999 baseline.	123.54	0.00	SDGE provided database of "mystery shop" and "salesperson training surveys" and a baseline report indicating the number of manufacturers. Neither a layout of the questionnaire used nor an explanation of how the mystery shoppers or salespersons training databases applied to the stated milestone - increasing the number of indoor/outdoor fixture (including torchieres) manufacturers offering Energy Star-rated or equivalent products in SD county over the 1999 baseline - was provided. Based on the submitted documentation, the review team cannot verify that the number of manufacturers was increased and the utility's claim is denied.

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
2001	Res New Construction	SDRNC-2	Market share of >Title 24 Units	56.00	56.00	The Program database is incomplete, missing key pieces of information, including measure installed, dates for permits/construction/incentives, and % more efficient than Title 24. However, the RER calculations for market size (new MF construction activity) appear sound and entitle SDG&E the superior achievement level for this milestone.
2001	Large NR Comprehensive Retrofit	SDNR-1	Increase the # of customers that install reflective roofs over baseline	40.00	40.00	Provided copy of final report - "Monitor and Evaluate the Performance of Cool Roof Installations at Multiple Customer Sites Interim Progress Report" by Architectural Energy Corporation. Also included were signed memorandums of understanding between 3 sites and SDG&E, demonstrating full achievement of this milestone. (data request 16 - 8/19/04).
2001	Res Ltg	SDR-1	Increase the number of eligible retail companies participating in the 2001 Co-op program	100.00	0.00	Attachment A to the "Milestone and performance Indicator Report: SDG&E" by XENERGY INC, March 14, 2002, include copies "Incentive Funds Request" signed by lighting manufacturer co-op representatives for retailer Project Partners. There are signed copies of agreements for 10 retailers dated March 2001; there are additional retailers for which information was provided but lack signed incentive request forms (Sav-On Drugs with Feit Electric). As part of the "Incentive Funds Request," addresses of participating retail locations were required- these are not always included in the documents received. This may be necessary because an eligible retailer is defined as "one with 10 or more stores that conduct business with the public on a retail basis which sells Energy Star lighting products." The milestone wording is vague and does not specify that the 10 stores must be in the SDG&E territory, or that all 10 stores must participate. All of the retailers listed were large, national (and statewide) chains that

Supplement to SDG&E's Assessment of Selected Miscellaneous Milestones

Program Name: Commercial/Industrial & Agricultural New Construction

The RLW report appears to be a thorough analysis of the F.W. Dodge Database, profiling construction activity in the SDG&E service territory. The report is dated July 28, 1999, and thus meets the cutoff for the superior achievement incentive.

The memo claims that the threshold and average methodologies both meet the 40% minimum to qualify for the milestone. The average method, however, does not appear relevant, as the goal was to demonstrate the percent of participants that planned to increase the efficiency of their designs as a result of the training (and using the percent likelihood can skew these results). The threshold method chooses 50% likelihood as the cutoff (and 67% qualify), although this could also mean the participant is 50% likely not to increase efficiency (i.e., 50/50). If next category is used -- 60% -- the percent meeting the threshold falls to about 39%, and just short of the milestone. Because the true number would be those with more than a 50% chance of increasing efficiency, and is somewhere between the true categories, and likely just over the 40% minimum threshold to qualify for the milestone (and thus the milestone was just met).

Program Name: Residential Heating and Cooling

The stated goal is to increase the average number of contractors who use manual J & S by specified percentage over the 1999 baseline or are knowledgeable and aware of diagnostic and maintenance techniques relating to heating & cooling system by a specified percentage. The study examines knowledge and awareness of contractors in the "domains" of combustion safety and duct training. There was no evaluation of whether the contractors were using manual J & S. The evaluation had little discussion of manual J & S and there was no justification for its exclusion in the survey. It was however, identified on page 9 of the evaluation.

Knowledge and awareness are measured using the results of the survey. The survey asks participants to rank their knowledge and understanding before and after the training class. There are no additional questions to confirm the actual knowledge and awareness gained from the training. It is not clear that a participant's response that he is more knowledgeable or aware means that he is in fact, more knowledgeable. A survey asking respondents to report their own level of knowledge and awareness without additional questions to support these claims does not provide strong evidence that the levels have increased.

Program Name: Residential Lighting

The stated goal is to increase the number of indoor/outdoor fixtures (including torchieres) manufacturers offering ENERGY STAR® -rated or equivalent products in San Diego county over the 1999 baseline.

The study looks only at torchieres and uses data from the statewide program. They count the number of torchiere manufacturers participating in the statewide program in 1999 and 2000. There were 9 manufacturers participating in 2000, up from 3 in 1999. They claim that this represents a 200% increase over the baseline established for this milestone.

This study does not appear to demonstrate support for their claim:

- The study only looks at torchieres, even though the milestone mentions indoor/outdoor fixtures. If there were no indoor/outdoor manufacturers in 1999 and 2000, this needs to be stated in the report. Taking the other fixtures into consideration will likely provide a different estimate of the percent increase.

- The study uses data from statewide program participation. Is it possible that a manufacturer may offer ENERGY STAR® -rated products in San Diego county but not be a participant in the statewide program? If so, it may be the case that all 9 of the manufacturers may have already been offering product in San Diego in 1999. This would result in a 0% increase, not 200%. The use of statewide program participation for this report is not well justified, and may be inappropriate.

APPENDIX A-4: SCG Miscellaneous Milestones Assessment

APPENDIX A-4: SCG Miscellaneous Milestones Assessment

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
1999	Small Nonresidential Comprehensive Retrofit Program, Statewide Small C/I Energy Efficiency Booklet	P1	Complete a statewide energy efficiency booklet targeting small commercial and industrial (C/I) customers. To achieve a first tier award, the booklet was to be completed by July 30, 1999; to achieve a second tier award, the booklet was to be completed by September 28, 1999.	106.33	106.33	SCG provided packing slips from Graphic Center listing "PG&E Statewide Utility Brochure" as items shipped. In addition, SCG provided a copy of the produced statewide brochure with a datestamp of 7/99. To achieve a first tier award, the booklet was to be completed by July 30, 1999. Based on the submitted documentation, the review team is able to verify that the milestone was met at the superior achievement level.
1999	Residential Retrofit and Renovation Program, Statewide Residential Energy Efficiency Booklet	P2	Complete a booklet on energy efficiency targeting residential customers. To achieve a first tier award, the booklet was to be completed by July 30, 1999; to achieve a second tier award, the booklet was to be completed by September 28, 1999.	106.33	106.33	Invoice from Design Vectors for production of Energy Savers booklet is dated 7/20/99. SCG further provided a copy of an email sent 7/15/99 from Mary Beth Marmur at Design Vectors to Vera Pineda at SCG alerting Ms. Pineda of the delivery of the Residential Energy booklets via Crescent Trucking. The email further noted that 167 boxes with 180 booklets per box would be arriving. The first tier award requires a booklet to be completed by 7/30/99. The invoice provides confirmation of a superior achievement in this milestone.
1999	Commercial New Construction Program, Statewide New Construction Builder Resource Guide	P3	Complete a statewide builder resource guide. For first tier award, the resource guide to be completed by July 30, 1999; for second tier award, to be completed by September 28, 1999.	106.33	106.33	SCG provided a copy of the Builder's Resource Guide dated Friday, July 16, 1999. In addition, a FedEx receipt from Consol, Inc to Gerry Foote of SCG (shipping date of July 15) listing the Builders Resource Guide as the contents was provided. The review team is able to verify that SCG met the superior achievement for this milestone.
1999	Res Retrofit and Renovation Program, Statewide Residential Energy Efficiency Contractor Program	P4	Conduct 6 program workshops throughout the state; SoCalGas was responsible for one workshop. To achieve a first tier award, the workshops were to be completed by May 16, 1999; to achieve a second tier award, the workshops were to be completed by May 31, 1999.	106.33	106.33	The "Energy Efficiency Programs PY99 Energy Efficiency Verification Documentation, Part 2- Program Process Awards Volume 1," has a photocopy of a handwritten list of attendees at the April 29, 1999 workshop for both RCP SF and MF. This list has name, company address, phone, fax and e-mail. (There are also copies of agendas, attendance lists and meeting notes from the 6 planning workshops conducted throughout the state between Jan 14, 1999 and March 11, 1999.) The list of attendees at the April 29, 1999 workshop, as well as the documents supporting the planning workshops demonstrate the full attainment of the goal.
1999	Small Nonresidential Comprehensive Retrofit Program, Statewide Small C/I Standardized Rebates Program	P5	Conduct two workshops. To achieve a first tier award, the workshops were to be completed by May 1, 1999; to achieve a second tier award, the workshops were to be completed by May 31, 1999.	106.33	106.33	The "Energy Efficiency Programs PY99 Energy Efficiency Verification Documentation, Part 2- Program Process Awards Volume 2 has photocopies of the slides from the April 9 and April 16, 1999 presentations. There is a list registrants, with attendees indicated for April 9th with no contact information, while for April 16th there is a list of registrants, including contact information, but attendees are not indicated. The follow-up request of SCG produced a brochure indicating that the April 16 workshops were to be held as well as a notation that an attendee list is no longer available. Based on the provided documentation, the review team is able to verify that 2 workshops were held by the May deadline and therefore SCG is entitled to the superior achievement award.

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
1999	Residential New Construction Program, Statewide Residential Window and Duct Training Program	P6	Make window and duct training available statewide. To achieve a first tier award, the training was to be available by May 31, 1999; to achieve a second tier award, the training was to be completed by June 30, 1999.	106.33	106.33	SCG provided a list of statewide training classes from June 16- Dec 16, 1999 was provided, as well as the list of attendees (company, address, phone, fax) through September. SCG further provided receipt for training materials dated June 1, 1999. While the milestone is somewhat ambiguous (have training 'available'), it appears that SCG met the superior achievement for this milestone.
1999	New Construction Codes & Standards Support and Local Government Initiatives Program, Local Government Initiatives	P7	Select the winning bidders of the RFP and sign contracts. To achieve a first tier award, the contracts were to be signed by June 30, 1999; to achieve a second tier award, the contracts were to be signed by July 30, 1999.	106.33	106.33	The signed and dated contracts between SCG and the Building Industry Institute, Local Government Commission, and Constructive Technologies were dated 6/28, 6/23, and 6/24 respectively. They were all signed by SCG in July 1999. Memos from each of the contractors document the start of work on before the June 30, 1999 date for highest level of award.
1999	Res, Res Retrofit and Renovation, NC, Commercial NC	P8	Select the winning bidders of the RFPs and sign contracts. To achieve a first tier award, the contracts were to be signed by June 30, 1999; to achieve a second tier award, the contracts were to be signed by July 30, 1999.	106.33	106.33	The "Energy Efficiency Programs PY99 Energy Efficiency Verification Documentation, Part 2- Program Process Awards Volume 2 has copies of the following: Signed contract dated 6/28/99 by Inspectech Corporation for the Renovation Services Program. Two memos from Inspectech relating Year 2000 compliance and a change in the funds available for the project were also included. Signed contract dated 6/28/199 by Inspectech Corporation for the Times of Sales Inspections project, as well as an internal letter at Inspectech announcing the contract on 6/8/1999. Signed contract dated 6/25/1999 by ADM Associates, Inc, for 3rd Part "upstream" High Efficiency Gas Water Heater Program, as well as a signed project objective dated 6/25/1999 for a 6/25/1999 project start date. Signed contract dated 6/25/1999 by ADM Associates for the 3rd Party Duct Efficiency project, as well as a signed Project Directive with start date of 6/25/1999. Signed contract dated 6/10/1999 by Consol for the ComfortWise program. The documentation
2000	Energy Advantage Home	NC1	Three part milestone, with successful completion of all three parts earning \$254,545. Potential dollars for each part listed in parentheses after each milestone description. 1. Enroll 50 projects in the New Energy Advantage Home (NEAH) program. The award is scaled from 30 to 50 projects. (\$84,848) 2. Sign contracts for 5,000 duct system tests/improvements by 12/31/00. The award is scaled from 1,500 contracts to 5,000 contracts. (\$127,273) 3. Prepare educational materials regarding the testing of duct systems and the installation of high performance ducts. Also, conduct 12 training classes on high performance duct installation methods. (\$42,424)	254.55	254.55	The "Energy Efficiency Programs PY2000 Milestones Verification Documentation Part 2- New Construction Awards," includes verification of the admin portion of the milestone: training materials, attendees, seminar evaluations, and contract commitments. Also included in the follow-up request was a printout of the database listing all attendees at the workshops from March 30, 2000 through November 3, 2000, in addition to the instructional materials used at the workshops. The submitted documentation demonstrates achievement of the superior achievement for this milestone.

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
1999	Res Retrofit and Renovation Program, Residential Upstream Appliance (water heater) Program	M1	Increase the stocking of .60 EF water heaters by 10% (i.e., 1.1 times the baseline share). A survey of stocking practices among water heater retailers was used to judge whether the target was met. To achieve a first tier award, 100% of the measure target (increasing the stocking of .60 EF water heaters by more than 10%) must be met, earning \$119,750. To achieve a second tier award, 70%-99% of the measure target must be met (increasing the stocking of .60 EF water heaters by 7-10%), earning \$83,750. No award would be given for meeting less than 70% of the target.	119.75	0.00	The Quantum report does not appear to be complete, it is missing a detailed methodology description (including participant sample sizes, response rates, etc.). Also, according to the report the Program sought to influence the distributor/wholesaler market (pg. 4), or about 37,500 to 40,000 units (only 25-30% of the replacement market). Yet the summary data on page 9 only show 5,569, or 14% of the total market that was sampled/replied? Is milestone linked to 10% stocking for the whole market or just the distribut/wholesalers that are being targeted? That is how Quantum has interpreted milestone, so they have not researched other aspects of the market. In addition, their non-part survey is based on only 11 non-parts, and if the one influential nonpart is left in (and why should they be excluded?) then the nonparts show a higher % of sales of efficient units than participants (i.e., the nonpart data cannot really be trusted). Based on the submitted documentation, the review team cannot verify that SCG has met
1999	Res Appliance Program, Statewide Residential Upstream Appliance (clothes washer) Program	M4	Increase the stocking practices of high efficiency clothes washers by 10% (i.e., 1.1 times the baseline share). A survey of stocking practices among clothes washer retailers was used to judge whether the target was met. To achieve a first tier award, 100% of the measure target (increasing the stocking of high efficiency clothes washers by more than 10%) must be met, earning \$119,750. To achieve a second tier award, 70%-99% of the measure target (increasing the stocking of high efficiency clothes washers by 7-10%) must be met, earning \$83,750. No award would be given for meeting less than 70% of the target.	119.75	0.00	Missing full reports (no cover pages, only have odd pages). Plus, Table 1 (pg 3) of the CRLAP 2000 Results appears to indicate that stocking practices decreased in 2000 compared to 1999, thus how could the milestone have been met? (i.e., what is the assumption that the milestone has been met? The fact that the avg % ES models on display increases slightly? It seems like the decrease in the % of stores carrying ES models, which decreases from 92.8% to 90.4%, would outweigh the slight increase in the number of models on display? Only 65% are even labeled in 2000 (compared to 78% labeled in 1999).) Based on the documentation provided, the review team cannot verify that the milestone has indeed been met and disqualifies SCG's award for this milestone.

PY	Program Name	Milestone Code	Performance Award Milestone (description)	Claimed Award (\$000)	Award Supported / Verified (\$000)	Assessment: Verification of Claim
2000	Advanced Water Heater Systems	NR3	Increase the ratio of high efficiency (i.e., greater than Title 24) water heaters sold (relative to standard equipment sales) by 5% over current level. Award scales from 2% - 5%.	159.09	159.09	Report appears to document increase in market share resulting from Program, although calculations are not succinctly presented and are difficult to follow. Based on what the review team was able to glean from the submitted documentation, it appears that SCG has met the superior achievement for this milestone.
2000	ResContractor	R2 and R3	R2: Achieve 25% increase in the number of RCP contractors with expertise in duct testing/whole systems approach, i.e. completed required training and/or demonstrated required skills level through testing (award scales from 15% - 25%). R3: Achieve 25% increase in the number of contractors that offer services to multi-family property owners/managers through performance contracting (award scales from 15% - 25%)	273.64	273.64	Database listing in response to the ALJ ruling demonstrates that SCG has completed the milestone in full.
2000	ResContractor	R3	combined with R2 above	see R2	see R2	Database listing in response to the ALJ ruling demonstrates that SCG has completed the milestone in full.
2001	Codes & Standards and Local Government Initiatives	SCGNC-1	Induce 2,000 student household requests for additional energy efficiency information. (Level 1 performance: 2,000; Level 2 performance: 1,400)	37.86	37.90	SCG provided survey instruments, raw numbers, and a database of participating teachers and schools. The progress report (internal) and the Quantam Final Report on the LivingWise program show the methodology used. The Review Team is able to verify that SCG has met the superior level of achievement for this milestone.
2001	Res Retrofit & Renovation	SCGR-1	Achieve the specified increase in the number of single-family RCP contractors who are actively participating in the program as of December 31, 2000. Actively participating in the program was defined as installing one or more measure(s) or service(s) for at least 5 customers. (Level 1 performance: 25%, Level 2 performance: 18%).	100.00	0.00	SCG provided limited information for verification of this milestone: a list of contractors by year for PY99, PY00 and PY01. Each contractor has a number corresponding to it, representing the number of customers. The review team cannot verify that any or all of these contractors are qualified based on a printout of a database, and therefore the utility's claimed award is denied.

APPENDIX B-1: Supplemental Information from PG&E for PY 2002

APPENDIX B-1: Supplemental Information from PG&E for PY 2002

PG&E Response to AnnEarnAssessProcConsol2000-2002_DR_SERA_008-02

Multifamily Rebates: Verification Request Item # 6 Explanation for why 31% of the program budget was not spent (expenditures were \$1.79 million out of the \$2.6 million budget), given that none of the energy savings targets were met.

The Statewide Multifamily Rebates program introduced a new approach focused on property owners and managers rather than contractors. The market did not respond to the new program even with additional efforts.

PG&E also encountered three major market barriers that impeded the success of this program during PY 2002 and prevented PG&E from reaching program targets.

- 1) Split incentives between property owners/managers and tenants - In the multifamily market, tenants usually pay the utility bills. Therefore, the multifamily property owners/managers have little incentive to invest in energy efficiency measures since they do not reap the savings benefits directly.

Property owners and managers lowered rents during PY2002 to attract and retain tenants rather than increase energy efficiency of the dwelling units because lowering rents did not increase their capital investment.

PG&E made program adjustments. However, program adjustments require ramp-up time in order to gain acceptance with the public. Although these adjustments resulted in improved participation in the program and yielded additional energy savings, they came late in an already abbreviated program term (nine months) in PY 2002 and reduced the capability of the landlord/property owners to respond before the December 31 program close.

- 2) Reduced rebate amounts were not attractive enough to induce landlords and property owners to invest in energy efficiency measures. PG&E revitalized the program by adjusting measure incentives upwards and inviting lighting contractors participate. These two changes resulted in some increased measure sales and equipment installations and the associated greater energy savings.
- 3) The measure mix forecast was different than the measure mix the multifamily market segment actually selected. The measure mix forecast did not address the landlords' reluctance to invest in energy efficiency but instead, focused on creating a more comprehensive installation of measures that would provide great benefits to tenants.

In response, PG&E moved funding from measures that were not selling to the measures that were. This strategy seemed to work but not in sufficient time to disburse the program funds entirely.

California Energy Star New Home: Verification Request Item # 5. "Explanation for why 24% of the program budget was not spent (expenditures were \$6.3 million out of \$4.8 million budget), given that none of the energy savings targets was met."

The total budget for PG&E's California Energy Star New Homes Multifamily program was \$6.3 million and a total of \$4.8 million was spent leaving 24% of the budget unspent.

In PY 2002, for the first time, the Residential New Construction program was split into two parts, the "Single Family" and the "Multifamily" programs. Prior to PY 2002, PG&E's Residential New Construction programs had focused largely on single family units and that is where PG&E's expertise clearly lay.

PG&E also set an unrealistically aggressive target of 9,000 units in light of their lack of experience with the multifamily new construction business. High hopes and naiveté were largely responsible for PG&E's inability to disburse multifamily new construction funds in PY 2002.

Initially PG&E experienced difficulty identifying effective communication channels with multifamily builders and design teams. By December 31, 2002, e-mail, telephone, and direct mail attempts to contact program participants yielded applications totaling 1,563 units. By 2003, however, PG&E had added seminars, partnerships with non-profit agencies and building departments, on-site visits and hosted forums, and education seminars (for design teams) to the mix and succeeded in connecting with the multifamily new construction building market.

In PG&E's service area, builders complained that incentive levels were insufficient and requirements too difficult to attract multifamily builders to the program. For 2003 rebate amounts for certain measures were increased and requirements were streamlined to facilitate builder participation.

Many multifamily builders required technical design assistance to meet program requirements, because they were unfamiliar with new Title 24 building codes effective January 2, 2002. As a result many builders did not or could not submit applications. PG&E's additional communications efforts and new design assistance incentives initiated in 2003 have greatly mitigated this problem.

The non-profit segment of the multifamily housing market requires long lead-times to secure financing for new construction projects and therefore, did not have time to secure funding for projects and consequently could not qualify for available rebates. Also, state tax credits were reduced due to the state budget crisis limiting the numbers of non-profit building projects. Longer program periods have helped to encourage this market segment to participate.

The cost for the inspections that were required to verify the installation of the proper energy efficiency equipment at the new construction sites were so high that often half the rebate money the builder could expect to receive was used up paying for the inspections. PG&E began including incentives to offset inspection costs beginning with the PY2003 program.

Express Efficiency: Verification Request Item # 6. "Explanation for why 19% of the program budget was not spent (expenditures were \$8.91 million out of the \$10.96 million budget), given that kW and kWh savings targets were not met and HTR targets were not fully met."

The Express Efficiency program was not awarded to PG&E until the second quarter of 2002. Program launch took place on April 1, 2002 with primary focus on hard-to-reach small- and medium-sized commercial, industrial and agricultural customers (with demands equal to or less than 500kW or 250,000 annual therms).

The bulk of the applications traditionally come in at the end of the program term. Consequently, funds must be managed throughout the program term so as to assure eligible rebate applications can be paid when they arrive late in the year. Marketing efforts are therefore, traditionally reduced in the 4th quarter to ensure the program does not run out of funds by encouraging too many applications. This is a difficult balancing act.

In addition, PG&E could not assure vendors and customers that rebates would be available beyond the 1st quarter of 2002. Although bridge funding was available in the first quarter of 2002, customers and vendors were unwilling to select or promote energy efficiency measures when program funding, approval, incentive amounts and start dates were uncertain. When program approvals were announced on March 31, 2002, momentum in the marketplace had already been lost.

When PG&E's Small Business Energy Survey program was not extended past the first quarter of 2002, the corresponding targets for PG&E's PY 2002 Express Efficiency program were not reduced to compensate for the decrease in small business customer participation rates this program cancellation would cause.

In addition the slow economy the state was experiencing did nothing to encourage hard-to-reach customers who typically have fewer financial resources to pay for larger initial capital costs of energy efficiency measures to participate. These same customers also do not have the resources to research the benefits of such investments.

The new aggregation rule introduced in 2002, excluding customers with demands across all of their accounts exceeding 500kW, was too difficult for customers to understand and apply. Most customers are not familiar with the "concept" of demand much less the requirement to add up demand across multiple accounts. Vendors had no way of knowing how many accounts were in a customer's name and therefore could not easily calculate total demand. The result was reduced vendor and customer participation.